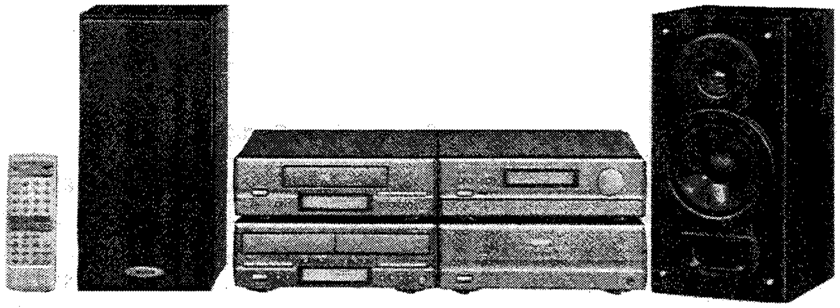
DENON Hi-Fi Personal Component System

SERVICE MANUAL

PERSONAL COMPONENT SYSTEM

UNIT No. UDRW-250 (Cassette Tape Deck)



COMPACT DISC DIGITAL AUDIO

- **The D-250 Personal Component System consists of the following:**

Power Amplifier	UPO-250
MW, LW, FM Tuner / Pre Amplifier Section	UTP-250
Remote Control Unit	RC-154
Cassette Deck Section	UDRW-250
CD player Section	UCD-250

MAIN FEATURES

- **AM/FM 30-station random preset tuner**
  Random presetting permits easy operation and will be convenient for the increased number of FM stations in the future.
- **Independent power amplifier designed for quality sound**
  High quality 50 W per channel power amplifier with large speaker terminals.
- **New SDB control**
  The Super Dynamic Bass control circuit delivers clear bass sound.
- **Super linear converter and high performance digital filter**
  Denon's unique systems for preventing loss of CD sound quality permit excellent sound field reproduction.
- **Editing circuit**
  Automatic selection of CD tracks for minimum blank space on the tape when recording.
- **Dolby B, C and HX PRO circuits**
  For high quality sound in playback and recording.
- **CD SRS circuit**
  CDs can be recorded at the touch of a button.
- **Easy-to-use remote control unit**
- **Auto on/off function**
  This function switches on the power with just a press of the CD or cassette deck play button. The power is switched off about 10 minutes after playback has finished.

BEFORE USING

- **Moving the system**
  To prevent short-circuiting or damage of connection cords, be sure to unplug the power cord and disconnect all connection cords before moving the system.
  In addition, always remove CDs before moving the system. If not, the CD may be scratched.
- **Before turning the power on**
  Check again that all connections are proper and that the connection cords are not damaged. Always set the power switch to the STANDBY position before disconnecting connection cords.
- Humming may be produced if the system is set near a TV set or other audio component or its connection cords. If this happens, try changing the position of the equipment and connection cords.
- Do not move the system abruptly from a cold place to a warm place, as this may cause dew (water droplets) to form in the set, preventing proper operation. If this happens, wait one hour before using the system.
- **Be sure to keep this manual**
  The illustrations used in this manual may differ from the actual system.

Check that the following parts are included in the package aside from the main unit:

① Operating Instructions	1
② FM Antenna	1
③ AM Loop Antenna	1
④ Remote Controller	1
⑤ R6P/AA batteries	2
⑥ System Connectors 1 & 2	2
⑦ FM Antenna adaptor	1
⑧ Pin Plug Cords	4

NIPPON COLUMBIA CO., LTD.

GENERAL SECTION

TABLE OF CONTENTS

General Section

- Main Features 1
- Before Using 1
- Main Specifications 3
- Operating Instructions .... 4~24

Tuner, Pre Section

- Level Diagram 25
- Block Diagram 26, 27
- Assembly Procedures 28, 29
- Adjustment 30, 31
- Semiconductors .... 32~34
- Microprocessor Documentation .... 34~36
- Microprocessor Peripheral Wiring Diagram 37
- Printed Wiring Board, Parts List .... 38~41
- Wiring Diagram 42
- Schematic Diagram 43
- Exploded View, Parts List 44
- Remote Control Unit 45

Amplifier Section

- Disassembly Procedures 46, 47
- Block Level, Diagram 48
- Adjustment 49
- Semiconductors 49
- Printed Wiring Board, Parts List .... 50~52
- Schematic Diagram 53
- Exploded View, Parts List 54, 55
- Wiring Diagram 56

CD Section

- Disassembly Procedures 57, 58
- Block Diagram 59
- Laser Pickup 60, 61
- Service Points 62, 63
- Adjustment Method 64, 65
- Printed Wiring Board, Parts List .... 66~69
- Semiconductors .... 70~74
- Microprocessor Peripheral Wiring Diagram 75
- Wiring Diagram 76
- Schematic Diagram 77
- Exploded View, Parts List 78
- Disassembly of CD Mechanism 79

Cassette Deck Section

- Disassembly Procedures 80, 81
- Level Diagram 82
- Block Diagram 82
- Adjustment 83, 84
- Semiconductors .... 84~86
- Microprocessor Documentation 87, 88
- Microprocessor Peripheral Wiring Diagram 89
- Printed Wiring Board, Parts List .... 90~95
- Wiring Diagram 96
- Schematic Diagram 97
- Exploded View, Parts List 98
- Cassette Mechanism .... 99~104

Tuner Pre-Amp Unit	UTP-250	1S
Power Amplifier Unit	UPO-250	1S
CD Player Unit	UCD-250	1S
Cassette Deck Unit	UDRW-250	1S
Top Cushion	503 1002 001	1
Top Spacer	502 0763 018	1
Top Spacer	502 0763 034	1
Space Cushion	502 9124 001	2
(Master) Carton	501 1626 012	1
Envelope Sub Assy		1S
Envelope	505 8006 019	1
Notice Sheet	515 0601 008	1
Inst. Manual	511 2421 006	1
Loop Antenna	231 0922 009	1
Remocon (RC-154)	499 0228 008	1
FM Ant. Ass'y	395 0019 025	1
Envelope Sub Ass'y		1S
Envelope	505 9119 002	1
Output Cord Ass'y	009 9022 015	2

SPECIFICATIONS

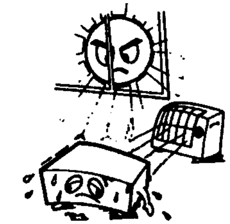
• **Tuner-preamplifier (UTP-250)**	
Reception Frequency Range:	FM: 87.50 MHz to 108.00 MHz AM: 522 kHz to 1611 kHz (MW), 153 kHz to 279 kHz (LW)
Receiving Sensitivity:	FM: 1.5 µV, 75 ohms (SN ratio 30 dB) AM: 20 µV (SN ratio 20 dB, MW), 35 µV (SN ratio 20 dB, LW)
FM Stereo Separation:	40 dB (1 kHz)
Bass Adjustment:	100 Hz ±8 dB
Treble Adjustment:	10 kHz ±8 dB
Super Dynamic Bass:	80 Hz +8 dB
Jacks:	PREOUT: Output jacks PHONO: Input jacks DAT: Input jacks, recording output jacks Processor: Processor input/output jacks
Dimensions (max.):	270 (W) × 86 (H) × 330 (D) mm (10-5/8" × 3-25/64" × 13")
Weight:	3.2 kg (7 lbs 10 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	18 W
• **Amplifier (UPO-250)**	
Rated Output Power:	50 W + 50 W (20 Hz to 20 kHz, 8 ohm)
Jacks:	6.3 mm headphone jack
Dimensions (max.):	270 (W) × 96 (H) × 330 (D) mm (10-5/8" × 3-25/32" × 13)
Weight:	4.1 kg (9 lbs 1 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	140 W
• **CD Player (UCD-250)**	
Wow and Flutter:	Below measurable limits (±0.001% W. Peak)
Sampling Frequency:	44.1 kHz
Light Source:	Semiconductor
Dimensions (max.):	270 (W) × 86 (H) × 313 (D) mm (10-5/8" × 3-25/64" × 12-21/64")
Weight:	3.1 kg (6 lbs 13 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	15 W
• **Cassette Deck (UDRW-250)**	
Type:	Horizontal 4-track, 2-channel auto reverse stereo cassette deck
Heads:	1 hard permalloy recording/playback head, 1 hard permalloy playback head, and 1 double-gap ferrite erase head
Tape Speed:	4.75 cm/s
Noise Reduction Circuits:	Dolby B and C NR
Usable Tapes:	Normal, chrome, and metal tapes
Dimensions (max.):	270 (W) × 96 (H) × 318 (D) mm (10-5/8" × 3-25/32" × 12-33/64")
Weight:	4.4 kg (9 lbs 11 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	18 W
• **Remote Control Unit (RC-154)**	
Type:	Infrared pulse
Number of Buttons:	41 (including 1 slide switch)
Dimensions (max.):	60 (W) × 177 (H) × 18 (D) mm (20-23/64" × 6-31/32" × 45/64")
Weight:	130 g (Approx. 6.4 oz) (including batteries)

* Maximum dimensions include controls, jacks, and covers. (W) = width, (H) = height, (D) = depth

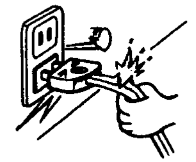
- For improvement purposes, specifications and functions are subject to change without advanced notice.

ADVARSEL:	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING -	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

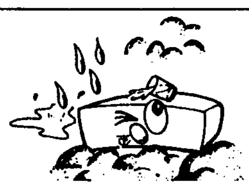
NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION/NOTE SULL'USO



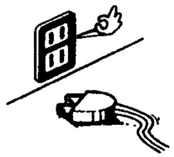
- Avoid high temperatures
  Allow for sufficient heat dispersion when installed on a rack.
- Vermeiden Sie hohe Temperaturen
  Beachten Sie, daß eine zureichende Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Eviter des températures élevées
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature alte.
  Assicuratevi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.



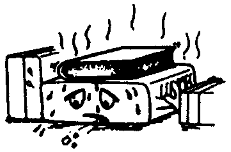
- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
  Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.
- Manneggiate il filo di alimentazione con cura.
  Agite per la spina quando scollegate il cavo dalla presa.



- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.

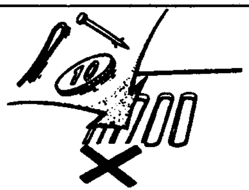


- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestate il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.

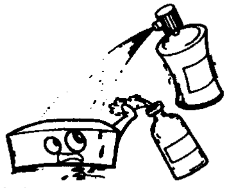


*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Die Belüftungsöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.



- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.



- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevvi che l'unità non venga in contatto con insetticidi, benzolo o solventi.

- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate mai, nè modificate l'unità in nessun modo.

Irregularities

- If the system should smoke or produce strange smells, immediately set the power switch to the STANDBY position, unplug the power cord, and contact your store of purchase.

Unregelmäßigkeiten

- Sollte das Gerät Rauch produzieren oder eigenartig riechen, stellen Sie den Netzschalter sofort auf die Position STANDBY (Bereitschaft), ziehen Sie den Netzstecker heraus und kontaktieren Sie Ihren Händler.

Anomalies

- Si de la fumée sort de la chaine ou des odeurs bizarres, placer l'interrupteur d'alimentation immédiatement sur la position de veille (STANDBY), débrancher le cordon d'alimentation et contacter le distributeur.

Irregolarità

- Qualora il sistema dovesse produrre del fumo o degli odori strani, collocate immediatamente l'interruttore di accensione nella posizione STANDBY, disinnestate il filo di alimentazione e rivolgetevi al negozio dell'acquisto.

"SERIAL NO. ______________________

PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE CABINET FOR FUTURE REFERENCE"

SAFETY IMPORTANT

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

(UTP-250 only)

IMPORTANT

(BRITISH MODEL ONLY)

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

The colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

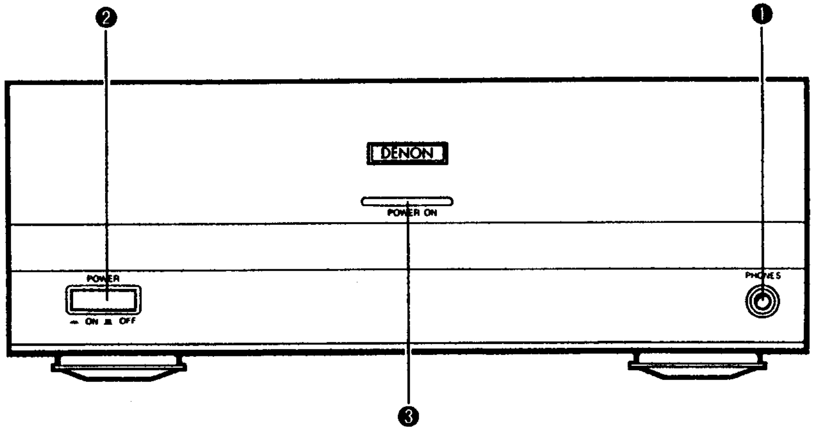
VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING- OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

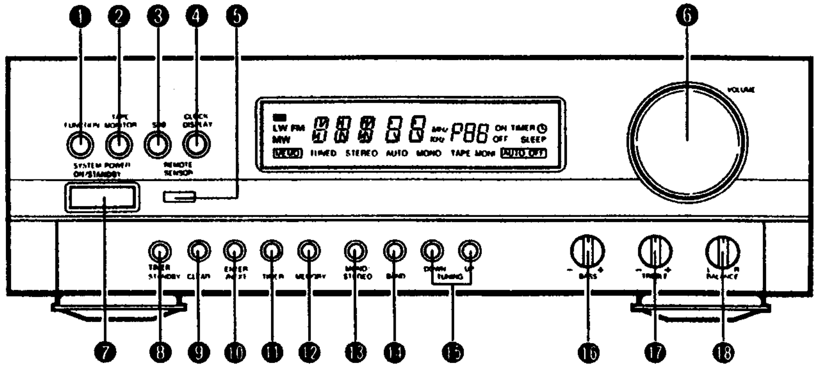
"CLASS 1
LASER PRODUCT"

FRONT PANEL/FRONTPLATTE/PANNEAU AVANT/PANNELLO ANTERIORE

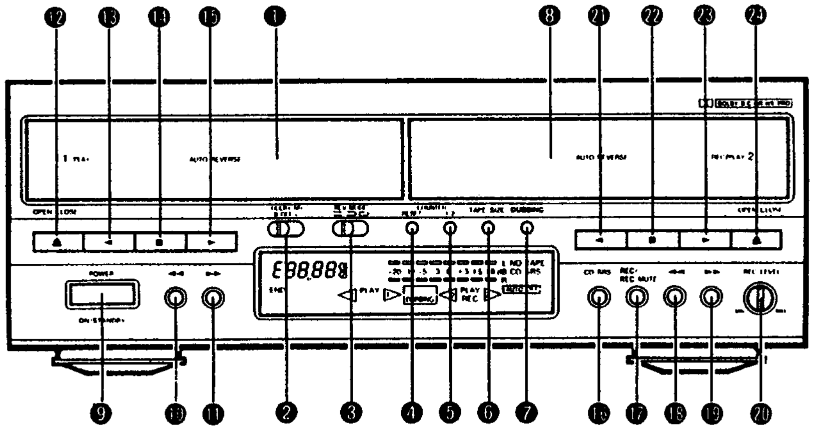
POWER AMPLIFIER
LEISTUNGSVERSTÄRKER
AMPLIFICATEUR DE PUISSANCE
AMPLIFICATORE DI POTENZA


②
①
DENON
POWER ON
POWER
ON OFF
PHONES
③

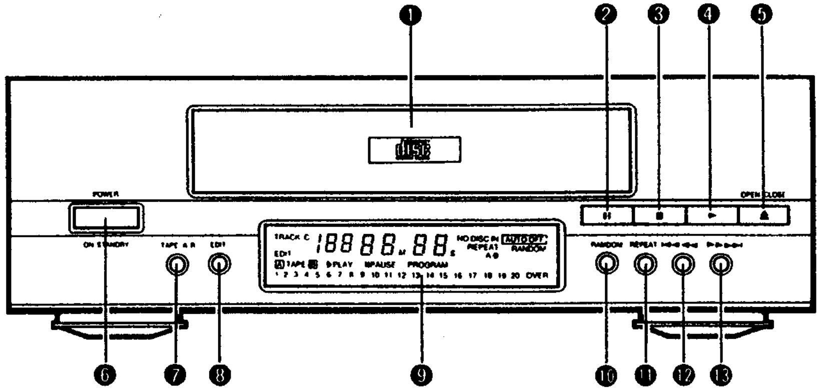
TUNER-PREAMPLIFIER
TUNER-VORVERSTÄRKER
TUNER-PREAMPLIFICATEUR
SINTONIZZATORE-PREAMPLIFICATORE


① ② ③ ④ ⑤ ⑥
FUNCTION
TAPE MONITOR
SDB
CLOCK DISPLAY
SYSTEM POWER ON/STANDBY
REMOTE SENSOR
VOLUME
LW FM MW
TUNED STEREO AUTO MONO TAPE MON AUTO OFF
ON TIMER OFF SLEEP
TIMER STANDBY
CLEAR
ENTER AUTO
TIMER
MEMORY
MONO STEREO
BAND
DOWN UP TUNING
BASS
TREBLE
L R BALANCE
⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱

CASSETTE DECK
CASSETTENDECK
PLATINE CASSETTE
PIASTRA A CASSETTE


⑫ ⑬ ⑭ ⑮ ① ⑧ ㉑ ㉒ ㉓ ㉔
1 PLAY
AUTO REVERSE
REC/PLAY 2
OPEN/CLOSE
POWER
ON/STANDBY
PLAY
REC
CD SYNC
REC MUTE
REC LEVEL
TAPE SIZE
DUBBING
⑨ ⑩ ⑪ ② ③ ④ ⑤ ⑥ ⑦ ⑯ ⑰ ⑱ ⑲ ⑳

CD PLAYER
CD-SPIELER
LECTEUR CD
DISPLAY DELLA PIASTRA A CASSETTE


① ② ③ ④ ⑤
POWER
ON/STANDBY
OPEN/CLOSE
TAPE A.R
EDIT
TRACK C
NO DISC IN
AUTO OFF
REPEAT
RANDOM
A-B
PLAY
PAUSE
PROGRAM
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 OVER
RANDOM
REPEAT
⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

- As an aid to better understanding the operation method, the illustrations used in this manual may differ from the actual system.
- Als Hilfestellung zum besseren Verständnis der Betriebsmethode, erlauben wir uns den Hinweis, daß sich die Abbildungen in dieser Bedienungsanleitung leicht von dem aktuellen System unterscheiden.
- Pour faciliter la compréhension de la méthode de fonctionnement, les illustrations utilisées dans ce manuel peuvent être différentes de celles de la chaîne réelle.
- Per rendere la spiegazione del metodo operativo più facile, le illustrazioni usate in questo libretto delle istruzioni possono differire dal sistema stesso.

CONTENTS

1 Main Features 4
2 Before Using 4
3 Antenna Connections 4
4 Connections 5
5 Part Names and Functions
- Power Amplifier 6
- Tuner-Preamplifier 6
- Cassette Deck 6
- CD Player 7
- Display .... 7~9

6 Listening to Radio Broadcasts .... 9~10
7 Using the Timer .... 10~13
8 Cassette Deck 13, 14
- Before Recording and Playback 13

9 Playing Cassette Tapes
(Single Side Playback, Two-Side Playback and Continuous Playback) 14, 15
10 Recording Cassette Tapes 15, 16
11 Playing CDs .... 16~19
- Compact Discs 16
- Regular Playback 17
- Other Playback Features .... 17~19
- Edited Recording onto Sides A and B of a Tape 19

12 Remote Control Unit 20
13 Auto On/Off Function 21
14 Important Information 21
15 Specifications 21
16 Troubleshooting 22

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⑦ FM Antenna Adaptor	1
⑧ Pin Plug Cords	4

1 MAIN FEATURES

- **AM/FM 30-station random preset tuner**
  Random presetting permits easy operation and will be convenient for the increased number of FM stations in the future.
- **Independent power amplifier designed for quality sound**
  High quality 50 W per channel power amplifier with large speaker terminals.
- **New SDB control**
  The Super Dynamic Bass control circuit delivers clear bass sound.
- **Super linear converter and high performance digital filter**
  Denon's unique systems for preventing loss of CD sound quality permit excellent sound field reproduction.
- **Editing circuit**
  Automatic selection of CD tracks for minimum blank space on the tape when recording.
- **Dolby B, C and HX PRO circuits**
  For high quality sound in playback and recording.
- **CD SRS circuit**
  CDs can be recorded at the touch of a button.
- **Easy-to-use remote control unit**
- **Auto on/off function**
  This function switches on the power with just a press of the CD or cassette deck play button. The power is switched off about 10 minutes after playback has finished.

2 BEFORE USING

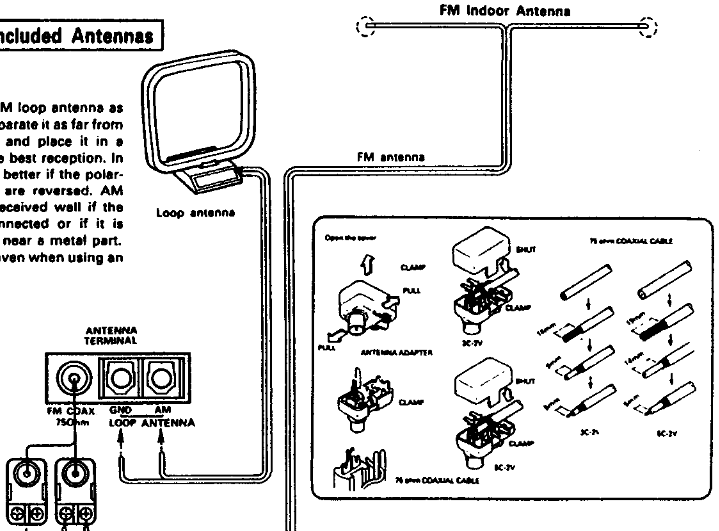
Note the following points before using the D-250.

- **Moving the system**
  To prevent short-circuiting or damage of the connection cords, be sure to unplug the power cord and disconnect all connection cords before moving the system.
  In addition, always remove CDs before moving the system. Failing to do so may result in scratched CDs.
- **Before switching on the power**
  Check again that all connections are proper and that the connection cords are not damaged. Be sure to disconnect the power plug before disconnecting or connecting the connection cords.
- Hum may be produced if a TV set or another audio component is set near this system or their connection cords are nearby. If this happens, try changing the position of the equipment and connection cords.
- Do not move the system abruptly from a cold place to a warm place, since t his may cause water droplets (condensation) to form in the equipment, preventing proper operation. If this happens, wait one hour before using the system.

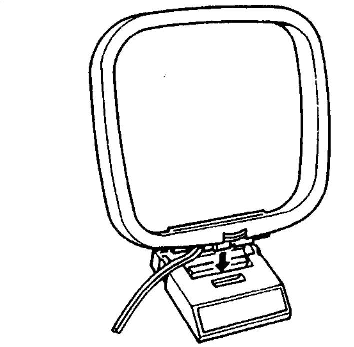
3 ANTENNA CONNECTIONS

Connecting the Included Antennas

AM Loop Antenna
Assemble the included AM loop antenna as shown in the diagram, separate it as far from the system as possible, and place it in a position that provides the best reception. In some cases, reception is better if the polarities of the connections are reversed. AM broadcasts will not be received well if the loop antenna is not connected or if it is connected but is located near a metal part. Attach the loop antenna even when using an outdoor AM antenna.



Assembling the Loop Antenna

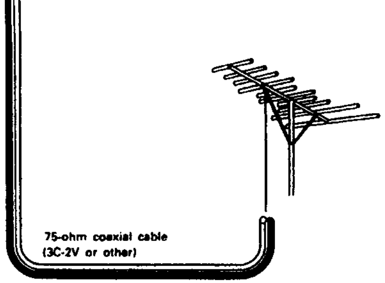


- Remove the tie fastening the loop antenna's lead and connect the lead to the antenna terminals.

- Separate the FM and AM antenna wires from the system connector wires.

Connecting an Outdoor Antenna

Use an outdoor antenna if reception cannot be heard clearly with the included antenna. Change the location, height, and direction of the antenna to find the position of best reception, then fix the antenna in that position.

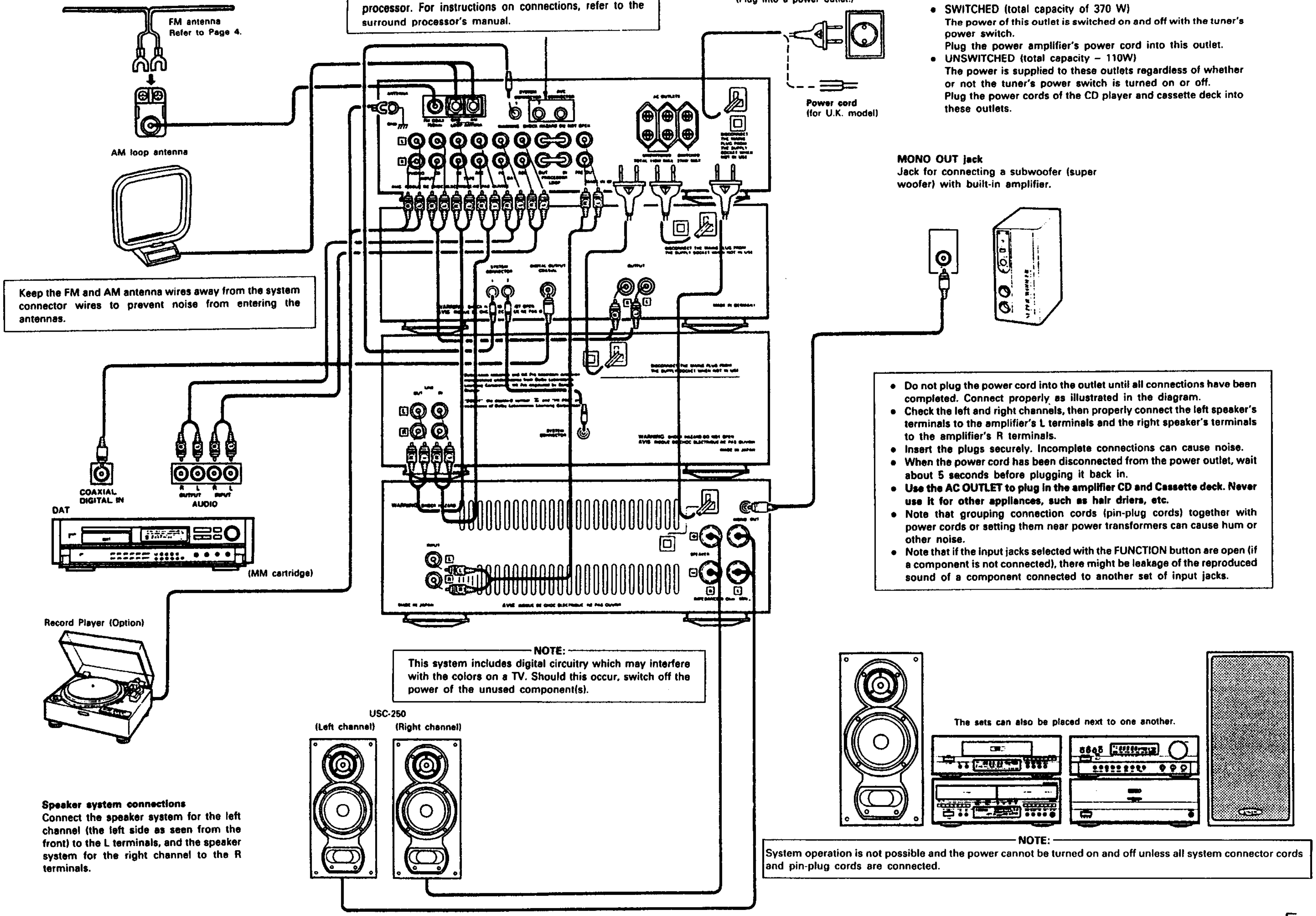


- Connect the outdoor antenna using 75-ohm coaxial cable. This will help shield the antenna from external noise.

• Places for Installing Outdoor Antennas

- Install the outdoor antenna facing a broadcast station's transmission antenna.
  When surrounded by buildings or hills, place the antenna in the location which provides best reception and try changing the direction of the antenna to obtain optimum reception.
- Do not install the antenna under power lines.
  It is extremely dangerous for the antenna to come into contact with a power line.
- Install away from roads and train tracks to prevent noise from cars and trains.
- Do not install the antenna too high, as it may be hit by lightning.

4 CONNECTIONS



These jacks are for connecting the exclusive surround processor. For instructions on connections, refer to the surround processor's manual.

Keep the FM and AM antenna wires away from the system connector wires to prevent noise from entering the antennas.

Power plug
AC 230 V 50 Hz,
AC 240 V 50 Hz (for U.K. model)
(Plug into a power outlet.)

AC OUTLET
Always connect the amplifier's (UPO-250) power cord to this AC outlet.

- SWITCHED (total capacity of 370 W)
  The power of this outlet is switched on and off with the tuner's power switch.
  Plug the power amplifier's power cord into this outlet.
- UNSWITCHED (total capacity – 110W)
  The power is supplied to these outlets regardless of whether or not the tuner's power switch is turned on or off.
  Plug the power cords of the CD player and cassette deck into these outlets.

MONO OUT jack
Jack for connecting a subwoofer (super woofer) with built-in amplifier.

- Do not plug the power cord into the outlet until all connections have been completed. Connect properly as illustrated in the diagram.
- Check the left and right channels, then properly connect the left speaker's terminals to the amplifier's L terminals and the right speaker's terminals to the amplifier's R terminals.
- Insert the plugs securely. Incomplete connections can cause noise.
- When the power cord has been disconnected from the power outlet, wait about 5 seconds before plugging it back in.
- **Use the AC OUTLET to plug in the amplifier CD and Cassette deck. Never use it for other appliances, such as hair driers, etc.**
- Note that grouping connection cords (pin-plug cords) together with power cords or setting them near power transformers can cause hum or other noise.
- Note that if the input jacks selected with the FUNCTION button are open (if a component is not connected), there might be leakage of the reproduced sound of a component connected to another set of input jacks.

NOTE:
This system includes digital circuitry which may interfere with the colors on a TV. Should this occur, switch off the power of the unused component(s).

Speaker system connections
Connect the speaker system for the left channel (the left side as seen from the front) to the L terminals, and the speaker system for the right channel to the R terminals.

The sets can also be placed next to one another.

NOTE:
System operation is not possible and the power cannot be turned on and off unless all system connector cords and pin-plug cords are connected.

5 PART NAMES AND FUNCTIONS

POWER AMPLIFIER

❶ **PHONES jack**
When using headphones, plug them in here.
The sound from the speakers is cut when headphones are plugged in.

❷ **POWER switch**
When pressed once, the power is switched on and the power indicator LED lights up. This switch is usually left on.

❸ **Power indicator LED**
This LED will flash for about 5 seconds until the speaker relay goes on, then it will light steadily. The LED will also flash when the protection circuit is activated. Should this occur, switch the power off, check the speaker connections, then switch the power on again.

TUNER-PREAMPLIFIER

❶ **FUNCTION button**
Use this to select the program source.
The selection changes in the order of TUNER, TAPE, CD, PHONO, and DAT.

❷ **TAPE MONITOR button**
Use this to listen to the sound of the tape. When used with a 3-head tape deck, the sound can be monitored while recording.

❸ **SDB (Super Dynamic Bass) button**
Press this button for more powerful bass sound.

❹ **CLOCK/DISPLAY button**
This button switches the display to the reception frequency or the function display and time display.

❺ **Remote control sensor**
The remote control unit is pointed toward this sensor and operated.

❻ **VOLUME control**
This control adjusts the overall volume. Turn clockwise (↷) to increase the volume, counterclockwise (↶) to decrease it.

❼ **SYSTEM POWER button**
(This switch can switch on the power for the entire system.)
Press to switch the power on, press again to put the system into standby.

❽ **TIMER STANDBY button**
Press this button to cause the timer to operate at the set time. When the timer has been set, pressing this button will light up the display's timer standby indicator (◷), and pressing it again will switch off the standby indicator. The timer will not function when the standby indicator is off.

❾ **CLEAR button**
This button is used to change the current time setting or the contents of the set timer.

❿ **ENTER/NEXT button**
This is used when setting the timer, setting the current time, and when advancing to the next operation.

⓫ **TIMER button**
This is used to set the timer.

⓬ **MEMORY button**
This button is used when presetting FM, MW and LW stations.

⓭ **MONO/STEREO**
(FM stereo mute/mono) button
This button will not function when receiving MW/LW broadcasts.
(For FM reception)

STEREO (mute):	Use this mode to receive FM broadcasts in stereo. ("AUTO" appears on the display.) The muting circuit is activated to cut the hiss noise between stations.
MONO:	In this mode, FM broadcasts are received in monaural, regardless of whether they are broadcast in monaural or stereo. Set to the mono mode if there is much noise in the stereo mute mode (with "AUTO" displayed) or if the signals are weak.

⓮ **BAND (FM/MW/LW selection) button**
With each press, the band is switched in the order of FM, MW, LW, FM, and so on.

⓯ **TUNING UP and DOWN buttons**
Use these to tune in FM, MW or LW stations and when setting the clock and timer.

⓰ **BASS control**
Use this control to adjust the bass.

⓱ **TREBLE control**
Use this control to adjust the treble.

⓲ **BALANCE control**
Use this control to adjust the balance of the volume between the left and right channels. The volume is the same for the left and right channels when the control is at the center.

CASSETTE DECK

❶ **Cassette tray: Deck 1**
The cassette tray opens outward when the OPEN/CLOSE button is pressed. Insert the cassette tape with the side on which the tape is exposed facing away from you. To close the cassette tray, press the OPEN/CLOSE button again.

❷ **DOLBY NR selection switch**
Use this switch to select the Dolby NR mode: off, B type or C type. During playback, set this switch to the same mode in which the tape was recorded.

❸ **REV MODE switch**
Use this switch to set the reverse mode to one of the following modes: ⇄ (single side model), ⊐ (two-side model), or ⟲ (continuous model).
Refer to Page 13 for details.

❹ **COUNTER RESET button**
Press this button to reset the tape counter to 00.00.

❺ **COUNTER 1/2 selection button**
Use this button to change the counter display between deck 1 and deck 2.

❻ **TAPE SIZE setting button**
Set the time of the tape to the length of the tape being used.
Refer to Page 8 for details.

❼ **DUBBING button**
Simply pressing this button permits dubbing (copying) a tape from deck 1 to deck 2.

❽ **Cassette tray: Deck 2**
The cassette tray opens outward when the OPEN/CLOSE button is pressed. Insert the cassette tape with the side on which the tape is exposed facing away from you. To close the cassette tray, press the OPEN/CLOSE button again.

❾ **POWER ON/STANDBY switch**
This switch turn the power of the cassette deck on and off.

❿ **◀◀ (rewind) button: Deck 1**
Press this button to rewind the tape in deck 1. Also, if pressed during playback in the ▶ (forward) direction, the tape is rewound to the beginning of the currently playing selection. If pressed during playback in the ◀ (reverse) direction, the tape is forwarded to the beginning of the next selection (on the back side of the tape).

⓫ **▶▶ (fast-forward) button: Deck 1**
Press this button to fast forward the tape in deck 1. Also, if pressed during playback in the ▶ (forward) direction, the tape is fast forwarded to the beginning of the following selection. If pressed during playback in the ◀ (reverse) direction, the tape is rewound to the beginning of the currently playing selection (on the back side of the tape).

⓬ **⏏ OPEN/CLOSE button: Deck 1**
Press this button to open and close the cassette tray. The button also works in the standby condition.

⓭ **◀ (reverse play) button: Deck 1**
Press this button to begin playback in the reverse direction on deck 1.
When this button is pressed in the standby condition, the power is automatically switched on and the deck plays.

⓮ **■ (stop) button: Deck 1**
Press this button to stop the moving tape in deck 1.

⓯ **▶ (forward play) button: Deck 1**
Press this button to begin playback in the forward direction on deck 1.
When this button is pressed in the standby condition, the power is automatically switched on and the deck plays.

⓰ **CD SRS (CD synchronized recording button)**
Use this button for simple CD synchronized recording.
Refer to Page 15.

⓱ **REC/REC MUTE**
(recording/recording mute) button
To record, press the REC/REC MUTE button and the ▶ play button only. If only the REC/REC MUTE button is pressed, the deck is set to the recording pause mode. If this button is pressed again, or pressed during recording, the recording mute mode is set for approximately 5 seconds, after which the deck is set to the recording pause mode.

Recording pause mode
When the play button of the CD player is pressed in the recording pause mode, the CD begins to be recorded.

⓲ **◀◀ (rewind) button: Deck 2**
Press this button to rewind the tape in deck 2. Also, if pressed during playback in the ▶ (forward) direction, the tape is rewound to the beginning of the currently playing selection. If pressed during playback in the ◀ (reverse) direction, the tape is forwarded to the beginning of the next selection (on the back side of the tape).

⓳ **▶▶ (fast-forward) button: Deck 2**
Press this button to fast forward the tape in deck 2. Also, if pressed during playback in the ▶ (forward) direction, the tape is fast forwarded to the beginning of the following selection. If pressed during playback in the ◀ (reverse) direction, the tape is rewound to the beginning of the currently playing selection (on the back side of the tape).

⓴ **REC LEVEL (recording level) control**
Use this control to set the recording level.

㉑ **◀ (reverse play) button: Deck 2**
Press this button to begin playback in the reverse direction on deck 2.
When this button is pressed in the standby condition, the power is automatically switched on and the deck plays.

㉒ **■ (stop) button: Deck 2**
Press this button to stop the moving tape in deck 2.

㉓ **▶ (forward play) button: Deck 2**
Press this button to begin playback in the forward direction on deck 2.
When this button is pressed in the standby condition, the power is automatically switched on and the deck plays.

㉔ **⏏ OPEN/CLOSE button: Deck 2**
Press this button to open and close the cassette tray. The button also works in the standby condition.

- Deck 1 is for playback only and deck 2 is for recording and playback.
- After the power cord is plugged into an outlet, a mechanical sound is produced from the cassette deck when the power switch is pressed on the first time only. This is the sound of the cassette mechanism being set to the proper operating position, and is not a problem with the deck.

CD PLAYER

① **Disc tray**
Compact discs are loaded to the disc tray.

② **II Pause button**
Press this button to stop CD play temporarily.
Press the play button to resume CD play.

③ **■ Stop button**
Press this button to stop CD play.

④ **▶ Play button**
Press this button to start playing the disc. If pressed when the disc tray is open, the disc tray closes and playback begins. Pressing this button in the standby mode automatically switches on the power and plays the disc.

⑤ **⏏ OPEN/CLOSE button**
Press this button to open the disc tray. Press once to open the disc tray forward, then press again to close the disc tray. This button also operates in the standby mode.

⑥ **POWER ON/STANDBY switch**
Press this to switch the CD player's power on and off.

⑦ **TAPE A/B button**
Press this button during editing to switch the display between the display of program contents for tape side A and the display for tape side B.

⑧ **EDIT button**
Press this button for edited recording (dividing the tracks to be recorded to fit onto sides A and B of a tape according to the length of the tape).

⑨ **Display**
This displays the time and the settings of the various buttons.

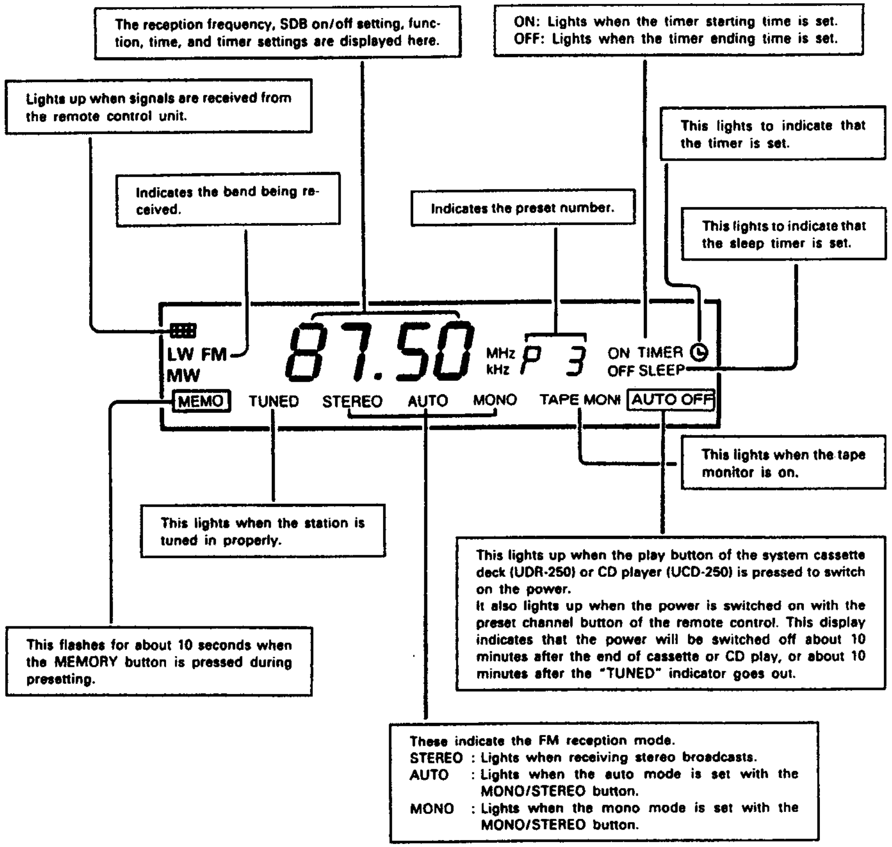
⑩ **RANDOM button**
Press this button to play the disc tracks in random order.

⑪ **REPEAT button**
Press this button for repeat play.

⑫ **⏮◀◀ (automatic/manual search backward button)**
Press this button to move the pickup back to the beginning of the desired track.
Press in the play, stop, or pause mode to move back a number of tracks equal to the number of times the button is pressed.

⑬ **▶▶⏭ (automatic/manual search forward button)**
Press this button to move the pickup forward to the beginning of the desired track.
Press in the play, stop, or pause mode to move forward a number of tracks equal to the number of times the button is pressed.
* The automatic search function is set if button ⑫ or ⑬ is released within 0.5 seconds, and the manual search function is set if the button is held in for more than 0.5 seconds.
* Buttons ⑫ and ⑬ do not function in the pause mode.

TUNER-PREAMPLIFIER DISPLAY



The reception frequency, SDB on/off setting, function, time, and timer settings are displayed here.

ON: Lights when the timer starting time is set.
OFF: Lights when the timer ending time is set.

Lights up when signals are received from the remote control unit.

This lights to indicate that the timer is set.

Indicates the band being received.

Indicates the preset number.

This lights to indicate that the sleep timer is set.

This lights when the tape monitor is on.

This lights when the station is tuned in properly.

This lights up when the play button of the system cassette deck (UDR-250) or CD player (UCD-250) is pressed to switch on the power.
It also lights up when the power is switched on with the preset channel button of the remote control. This display indicates that the power will be switched off about 10 minutes after the end of cassette or CD play, or about 10 minutes after the "TUNED" indicator goes out.

This flashes for about 10 seconds when the MEMORY button is pressed during presetting.

These indicate the FM reception mode.
STEREO : Lights when receiving stereo broadcasts.
AUTO : Lights when the auto mode is set with the MONO/STEREO button.
MONO : Lights when the mono mode is set with the MONO/STEREO button.

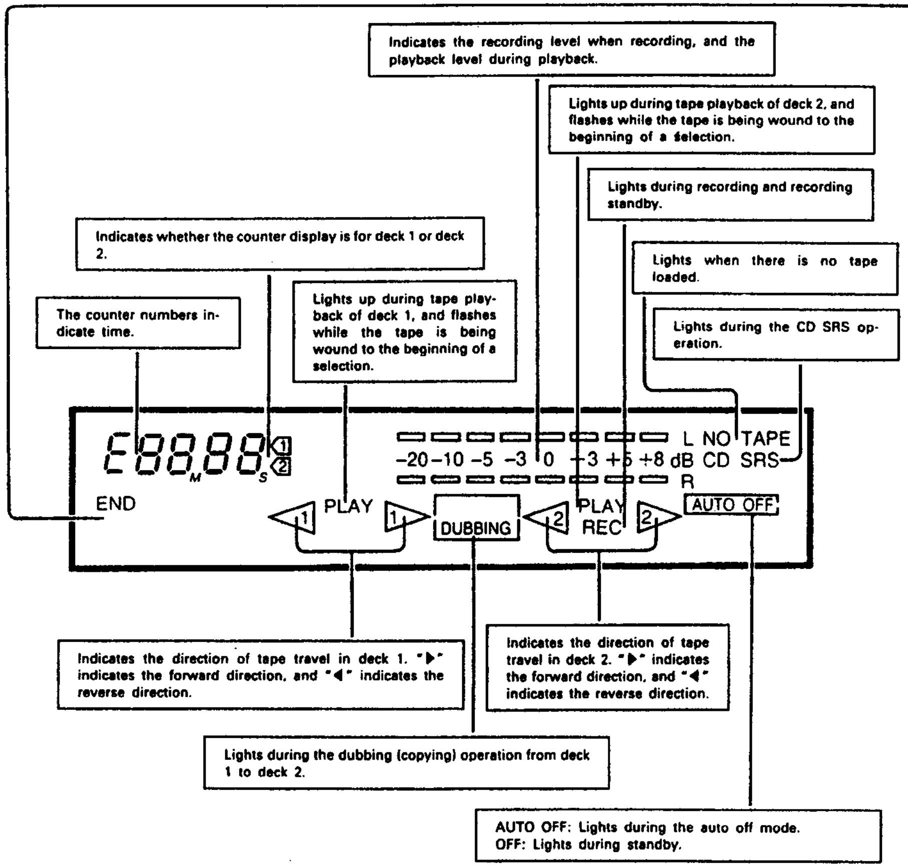
Trap Door

- To open the trap door, press area of the PUSH OPEN △ indication at the upper right of the panel. When the door lock is released, open the door with your hand.
- To close the trap door, press the indicated area at the upper right of the panel and lock the door.

NOTE:

- The "◷" of the timer standby display will not light up unless the current time and the timer have been set.
- When the FUNCTION button is used to switch the function while "AUTO OFF" is lit, the auto on/off mode is cancelled and the display goes out.
  Also note that when the play button of one of the components (CD player or cassette deck) is pressed while "AUTO OFF" is lit, causing the function to change, the auto on/off mode will not be cancelled and the display will remain lit.

CASSETTE DECK DISPLAY



Indicates the recording level when recording, and the playback level during playback.

Lights up during tape playback of deck 2, and flashes while the tape is being wound to the beginning of a selection.

Lights during recording and recording standby.

Indicates whether the counter display is for deck 1 or deck 2.

Lights when there is no tape loaded.

The counter numbers indicate time.

Lights up during tape playback of deck 1, and flashes while the tape is being wound to the beginning of a selection.

Lights during the CD SRS operation.

Indicates the direction of tape travel in deck 1. "▶" indicates the forward direction, and "◀" indicates the reverse direction.

Indicates the direction of tape travel in deck 2. "▶" indicates the forward direction, and "◀" indicates the reverse direction.

Lights during the dubbing (copying) operation from deck 1 to deck 2.

AUTO OFF: Lights during the auto off mode.
OFF: Lights during standby.

The direction of tape travel indicators also serve to indicate whether a cassette tape is loaded.
These indicators do not light up when the tape is stopped or when there is no cassette tape loaded.

USING THE TAPE COUNTER

1. Tape Counter Display

- The tape counter indicates the elapsed time of the running tape in minutes and seconds.

(Minutes) (Seconds)

- The counter is reset to 00.00 when the tape is ejected and loaded, and by the COUNTER RESET button.
- Making a memo of the contents of a recording and the range of the counter numbers while you are recording or playing back a tape will be convenient when you search for a portion of the tape you would like to listen to or when you search for the next portion you would like to record.

2. Tape Size Selector

- Match the tape size with the tape being used.
- Press the TAPE SIZE button until the desired tape size is displayed, then press the button again while the tape size is being displayed to set it. With each press of the button, the display will change according to the following cycle.

→ C46 → C50 → C54 → C60 → C74 → C90 → C100 → C120 → C54L ← C50L ← C46L ←

※ C46L, C50L, and C54L indicate large-hubbed cassettes.
※ Only values included in the display can be set.

3. END Display

This display indicates that the tape is reaching the end during recording or playback.

- Match the tape size with the tape you are going to use.
- The END indicator will start flashing when the remaining time to the end of the tape is about 5 minutes. (Note that this will be the case only when the TAPE SIZE setting and the length of the tape are in agreement. When the tape used and the TAPE SIZE setting differ, a large error may arise in the time at which the END indicator starts flashing.)
- When the tape has been recorded or played back to its end, the flashing of the END indicator will change to steady lighting.

※ Note that this indicator is only a guide and its operation will vary according to the size of the hub diameter of the tape as well as with differences of tape thickness, so that the END indicator might not light in some cases.

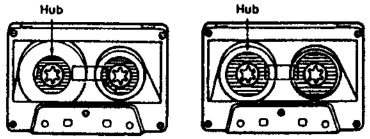
NOTE:

This deck's linear tape counter has been set for the following cassette tape lengths: C46, C50, C54, C60, C74, C90, C100, C120, C46L, C50L, and C54L. (L indicates large-hubbed cassettes.)

Using a tape that lies outside of this range, or a tape with a different length than the displayed lengths, will result in error. When using a tape that is not included in the TAPE SIZE selection, select the tape size closest to the length of the tape to be used. (This will reduce the error.)

The linear tape counter is not accurate like a clock. The thickness of the tape will differ depending on the type of tape used (tape position and time), and so there will be some error introduced. Error also arises from the difference between tapes with smaller and larger hubs.

- Large hubs are ones with a diameter of about 27 mm. Note that if the hub is larger than this, there will be a large error in indicating the tape travel time.



Normal hub Large hub

Dolby noise reduction and HX PRO headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX PRO originated by Bang & Olufsen.
"DOLBY", the double-D symbol DD and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

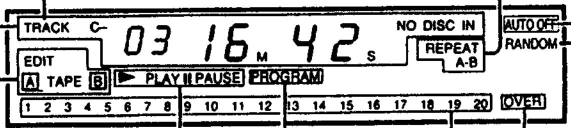
CD PLAYER DISPLAY

Tape type and remaining time display
During the editing operation, C-00 lights and the tape time is displayed.

Track number display
00 is displayed when the disc data cannot be read properly.
When a disc is loaded:
- The total number of tracks is displayed in the stop mode.
- The track number is displayed in the play and program modes.
- [[or]] is displayed when the innermost or outermost section of the disc is reached in the manual search mode.

Time display
0000 is displayed when the disc data cannot be read properly.
When a disc is loaded:
- The elapsed playing time is displayed in the stop mode.
- The elapsed time for the track currently playing is displayed in the play and pause modes.
- The elapsed time for the programmed tracks is displayed in the program mode.

The indicators switch as follows when the REPEAT button is pressed in the play mode:
First press: REPEAT (single track repeat) The repeated track number lights on the music calendar.
Second press: REPEAT (all tracks repeat) The track numbers of the tracks on the disc light.
Third press: REPEAT A-
Fourth press: REPEAT A-B
Fifth press: No display
- When track 21 or higher is repeated in 1-track repeat, the TRACK number flashes.


TRACK
C-
03
16
M
42
S
NO DISC IN
AUTO OFF
REPEAT
A-B
RANDOM
EDIT
A TAPE B
▶ PLAY II PAUSE
PROGRAM
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
OVER

▶ PLAY lights when the disc is playing, and II PAUSE lights when in the pause mode.

PROGRAM lights during the programmed selection mode.

This lights when there are 21 or more tracks on the disc.

This lights when the RANDOM button is pressed.

AUTO OFF: Lights during the auto off mode.
OFF: Lights when the power is switched off.

During the editing operation, EDIT A TAPE lights up, the remaining time for side A of the tape is indicated on the time section of the display, the track numbers set for side A light on the calendar section of the display, while the track numbers set for side B flash. When the TAPE A/B button is pressed, A goes off, B lights, and the remaining time and track numbers set for side B are indicated in the same way.

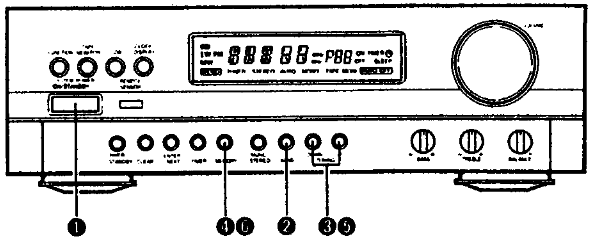
Music calendar display
This indicates the track numbers on the disc to a maximum of 20.
The track numbers go off after the corresponding tracks are played.
In the program mode, the track numbers of the programmed tracks are indicated to a maximum of 20.
All track numbers from 1 to 20 light when the disc data cannot be read properly.

- NO DISC lights on the display if no disc is loaded, or if the disc is loaded upside-down or is heavily scratched or dirty.

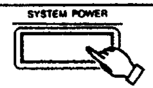
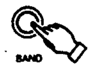
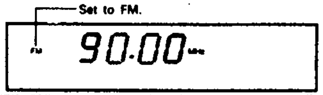
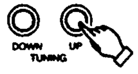
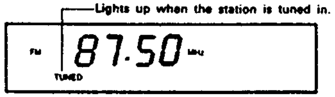
6 LISTENING TO RADIO BROADCASTS

(Check that connections are proper, referring to Page 5)

TUNING

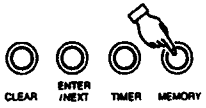
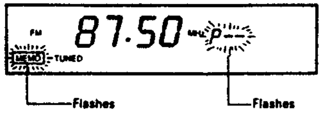
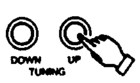
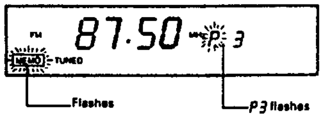
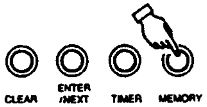
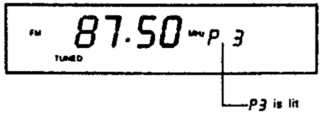


Example: Tuning to 87.50 MHz, FM

1	Set the VOLUME control to the minimum position, then press the SYSTEM POWER button.	 SYSTEM POWER	
2	Select the FM band with the BAND button.		 Set to FM. FM 90.00 MHz
3	Use the UP and DOWN buttons to set the frequency to 87.50 MHz.	 DOWN UP TUNING	 Lights up when the station is tuned in. FM 87.50 MHz TUNED

Presetting MW, LW and FM Stations

Example: Presetting the (currently tuned) FM 87.50 MHz to preset number 3

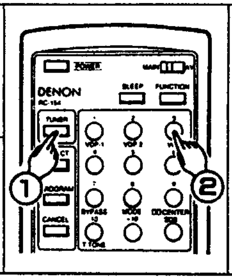
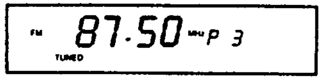
4	Press the MEMORY button. MEMO flashes for 10 seconds.	 CLEAR ENTER /NEXT TIMER MEMORY	 FM 87.50 MHz P MEMO TUNED Flashes Flashes
5	Use the UP and DOWN buttons to call up the number to which you want to preset the station. Or, directly press the number buttons on the remote control unit. The preset number will flash.	 DOWN UP TUNING	 FM 87.50 MHz P 3 MEMO TUNED Flashes P3 flashes
6	Press the MEMORY button while MEMO is flashing.	 CLEAR ENTER /NEXT TIMER MEMORY	 FM 87.50 MHz P 3 TUNED P3 is lit

Up to 30 MW, LW and FM stations can be preset at random using this procedure.

Auto Tuning
- When the TUNING buttons are pressed, the frequency changes in steps of 50 kHz for FM, 9 kHz for MW and 1 kHz for LW.
- If the TUNING UP or DOWN button is held in for more than 1 second, the frequency continues to change when the button is released. The next station is tuned in automatically and the tuning stops there. Note that tuning will not stop if the antenna input is weak and the TUNED indicator does not light. To stop the auto tuning, press the UP or DOWN button again.

Listening to Preset Stations

Example: Listening to the FM station preset at number 3

1	Press the TUNER button on the remote control unit.	 DENON POWER SLEEP FUNCTION TUNER CANCEL BYPASS MODE T.TONE ① ②	
2	Press button "3" on the remote control unit.		

FM Stereo Reception

- When the MONO/STEREO button is pressed (which lights the AUTO and MONO indicators) and an FM stereo broadcast is received, the STEREO indicator lights and the station is received in stereo. If the MONO indicator is lit by pressing the MONO/STEREO button, the STEREO indicator goes off and the station is received in monaural.

Notes on Presetting

- When an FM station is preset, the auto or monaural mode is also set, so check the display before presetting the station.
- If a station is preset to a number at which another station has previously been preset, the previous station is cleared and the new station is preset.
- If the power cord is unplugged, the preset memory is not cleared immediately, but will be cleared if the cord is left unplugged over a long period. Should this happen, preset the stations again.

7 USING THE TIMER

Setting the Timer

- Be sure to set the current time.
- Regular timer: The power can be switched on and off once every day at the same time. (Wake-up music)
- Sleep timer: The power can be set to turn off in up to 60 minutes in steps of 10 minutes using the remote control unit. (Bedtime music)

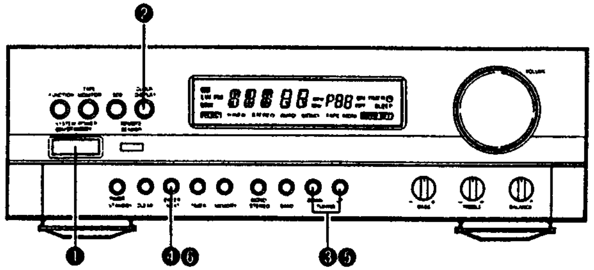
Be sure to preset stations before setting the timer.
Refer to "Presetting MW, LW and FM Stations" on Page 9.

- Turn the standby switch off when not using the timer.

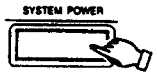
Power Failure

Should a power failure occur or if the power cord becomes unplugged from the power outlet, 00:00 or the time at which the power failed will flash on the time display. If this happens, reset the current time.
(Reset the current time and timer settings. If 00:00 was displayed, also reset the stations preset on the tuner.)
The standby mark starts flashing if there is a power failure or the power cord is unplugged while the standby mark is lit. If this happens, reset the time and the timer. (If the display reads 00:00, also reset the tuner's preset channels.)
To make the standby mark stop flashing, press the TIMER button, then press the TIMER or CLEAR button while "FUNC" is displayed.

Setting the Current Time (A 24-hour clock display is used.)

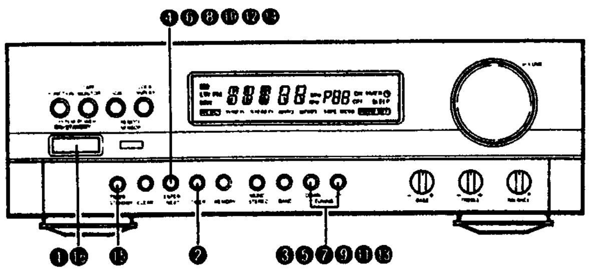


Example: Setting to 19:30 (7:30 p.m.)

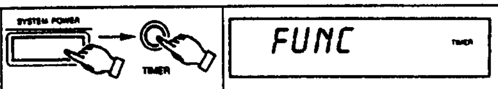
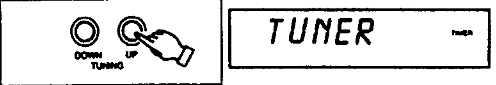
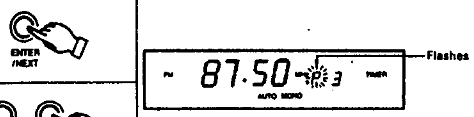
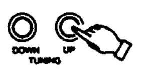
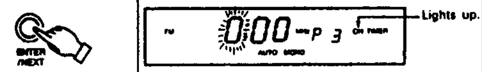
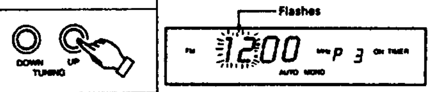
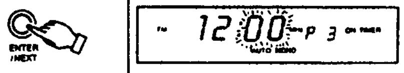
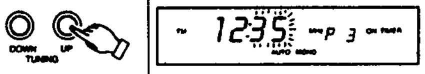
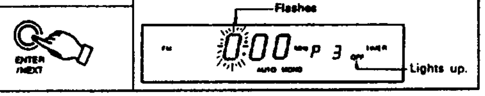
1	Press the SYSTEM POWER button.		
2	Hold in the CLOCK/DISPLAY button for 3 seconds or longer.	CLOCK/ DISPLAY	0:00 The hour's place flashes. (All places flash if the time has already been set.)
3	Set the hours with the UP and DOWN buttons.	DOWN UP TUNING	19:00 The set places flash.
4	Press the ENTER/NEXT button.		19:00 The minutes' places flash.
5	Set the minutes with the UP and DOWN buttons.	DOWN UP TUNING	19:30 The set places flash.
6	Press the ENTER/NEXT button at the sound of a time signal. The time display lights steadily and the clock starts keeping the time.		19:30 The display lights steadily and the clock starts to count from 0 seconds.

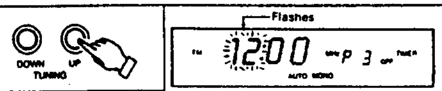
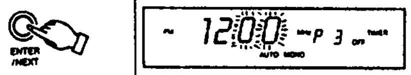
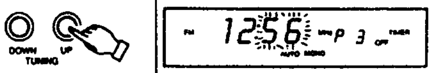
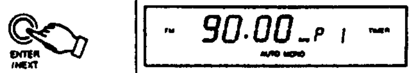
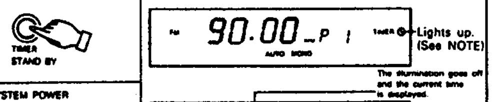
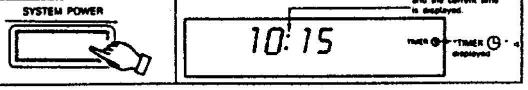
Setting the Timer

(Preset the MW, LW and FM stations in advance)


❹❻❽❿⓬⓮
❶⓰
⓯
❷
❸❺❼❾⓫⓭

**Example: Setting the timer to turn on at 12:35 and off at 12:56.
90.00 MHz FM is being received on preset number "1".
87.50 MHz FM is set to preset number "3".**

1	Press the SYSTEM POWER button.	 SYSTEM POWER TIMER FUNC
2	Press the TIMER button.	
3	Press the UP and DOWN buttons to display "TUNER".	 DOWN UP TUNING TUNER
4	Press the ENTER/NEXT button.	 ENTER /NEXT 87.50 P 3 Flashes
5	Press the UP and DOWN buttons to set the preset number.	 DOWN UP TUNING
6	Press the ENTER/NEXT button.	 ENTER /NEXT 0:00 P 3 ON TIMER Lights up.
7	Use the UP and DOWN buttons to set the hour at which the timer is to switch on.	 DOWN UP TUNING Flashes 12:00 P 3 ON TIMER
8	Press the ENTER/NEXT button.	 ENTER /NEXT 12:00 P 3 ON TIMER
9	Use the UP and DOWN buttons to set the minutes at which the timer is to switch on.	 DOWN UP TUNING 12:35 P 3 ON TIMER
10	Press the ENTER/NEXT button.	 ENTER /NEXT Flashes 0:00 P 3 OFF TIMER Lights up.

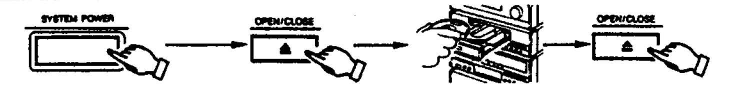
11	Use the UP and DOWN buttons to set the hour at which the timer is to switch off.	 DOWN UP TUNING Flashes 12:00 P 3 OFF TIMER
12	Press the ENTER/NEXT button.	 ENTER /NEXT 12:00 P 3 OFF TIMER
13	Use the UP and DOWN buttons to set the minutes at which the timer is to switch off.	 DOWN UP TUNING 12:56 P 3 OFF TIMER
14	Press the ENTER/NEXT button.	 ENTER /NEXT 90.00 P 1
15	Press the TIMER STANDBY button.	 TIMER STAND BY 90.00 P 1 TIMER Lights up. (See NOTE) The illumination goes off and the current time is displayed.
16	Press the SYSTEM POWER button.	 SYSTEM POWER 10:15 TIMER "TIMER ⊕" is displayed

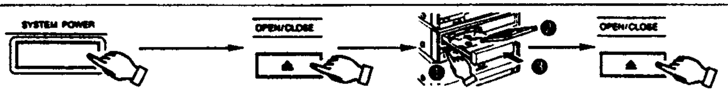
- When the TIMER STANDBY button is pressed and the "⊕" mark is lit, the timer will function at the same times each day.
- To switch off the timer, press the TIMER STANDBY button and turn off the "⊕" mark.

NOTE:

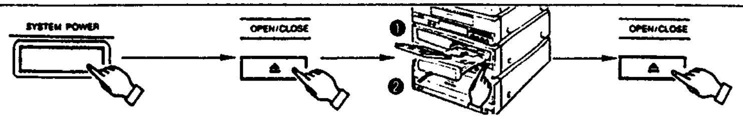
The timer standby mark "⊕" will not light unless the current timer has been set. Should this be the case, set the current time, then press the TIMER STANDBY button.

Ways to Use the Timer

	Example 1: Waking up to the music of a compact disc.		
1	 Press the tuner-preamplifier's SYSTEM POWER button to switch on the power. → Press the CD player's OPEN/CLOSE button to open the tray. → Set the compact disc in the tray. → Press the OPEN/CLOSE button again to close the tray.		
2	Press the tuner-preamplifier's TIMER button.		FUNC
3	Press the UP and DOWN buttons of the tuner-preamplifier to display "CD".	DOWN UP TUNING	CD
4	Follow steps 6 to 16 under "Setting the Timer" on Page 11.		

	Example 2: Waking up to the music of a cassette tape.		
1	 Press the tuner-preamplifier's SYSTEM POWER button to switch on the power. → Press the cassette deck's OPEN/CLOSE button to open the tray. → Load the cassette tape. → Press the OPEN/CLOSE button again to close the tray.		
2	Press the tuner-preamplifier's TIMER button.		FUNC
3	Press the UP and DOWN buttons of the tuner-preamplifier to display "TAPE".	DOWN UP TUNING	TAPE
4	Follow steps 6 to 16 under "Setting the Timer" on Page 11.		

- The tape will be played back in the direction indicated by the tape direction indicator in the tape deck on the side of the tape counter display.

	Example 3: Unattended recording of radio broadcasts ("air checks")		
1	 Press the tuner-preamplifier's SYSTEM POWER button to switch on the power. → Press the deck 2 OPEN/CLOSE button to open the tray. → Load the cassette tape to which you will record. → Press the OPEN/CLOSE button again to close the tray.		
2	Press the tuner-preamplifier's TIMER button.		FUNC
3	Press the UP and DOWN buttons of the tuner-preamplifier to display AIR.CH.	DOWN UP TUNING	AIR.CH
4	Follow steps 4 to 16 under "Setting the Timer" on Page 11.		

- Timer recording starts in the direction indicated by the tape direction indicator of deck 2.
- Check that the tape direction and REV MODE switch settings are as desired.
- The section of leader tape at the beginning of the tape cannot be recorded. To avoid missing the beginning of the recording, set the starting time to about 1 minute before the program is scheduled to start.

Checking the Timer Settings

To check the timer settings, switch on the power of the tuner-preamplifier, press the TIMER button, then press the ENTER/NEXT button. The timer start mode, reception band, preset number, on time, and off time are displayed in order each time the ENTER/NEXT button is pressed. One more press returns the display to the reception frequency.
When the on time and off time have not been set, 0000 flashes and there is no transition to the next display.

Changing the Timer Settings

When the timer setting operation is repeated, the previous settings are deleted and the new settings are set.

Deleting the Timer Settings

The timer settings can be cleared by pressing the TIMER button and then while FUNC is being displayed, pressing the TIMER button again or pressing the CLEAR button.

Note about the Set Timer

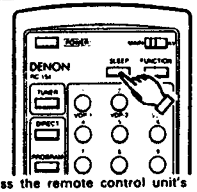
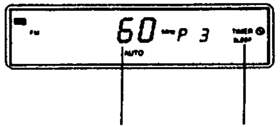
If the set time of the timer is reached while the power is on, the timer settings will take over and there will be a switch to the function that has been set on the timer.

Cancelling the Timer

Press the TIMER STANDBY button and the " ⏲ " mark will go off.

Setting the Sleep Timer

(Use the remote control unit for these operations.)
Example: Setting the power to switch off in 50 minutes.

	Currently receiving 87.50 MHz, FM.	- 87.50 -	
1	 Press the remote control unit's SLEEP button.	 "60" is displayed. "SLEEP" appears and flashes for 5 seconds.	
2	Press the SLEEP button again while "SLEEP" is flashing.	"50" is displayed, and the frequency display (87.50) reappears after 5 seconds.	The power is switched off after 50 minutes.

- If the sleep timer and regular timer settings overlap, the sleep timer is given priority.
- Do not press the TIMER STANDBY button after the power has been switched on with the timer. If this is done, the timer will not function properly.
- If the same time is set for the on time and off time, the power will not be switched on even when the "STANDBY" indicator is lit.
- If the timer is set for an AM or FM station and the on time of the timer is reached while listening to another station, the tuner switches to the station which was set with the timer.
- If the display is not normal, unplug the power cord, then holding in the MEMORY button and the BAND button, plug the power plug into the power outlet. This will reset the tuner to the initial settings and provide a proper display. If this is done, reset the preset stations, current time, and timer settings.

Cancelling the Sleep Timer

- To cancel the timer while it is operating in the sleep mode, press the SLEEP button, and while "SLEEP" is flashing, press the CLEAR button on the tuner-preamplifier.
- Press the SLEEP button and continue to press it until the power is switched off. When the power is switched off the sleep timer will be cancelled.

8 CASSETTE DECK

Before Recording and Playback

Auto Reverse

This deck is equipped with an auto reverse mechanism, so cassette tapes can be played and recorded on both sides or played continuously without having to turn them over.

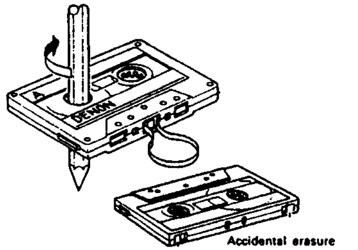
■ **Direction of tape travel**
This deck has two play buttons, one for the forward direction (front side) and another for the reverse direction (back side). The side being played can be changed during playback by pressing the opposite play button.

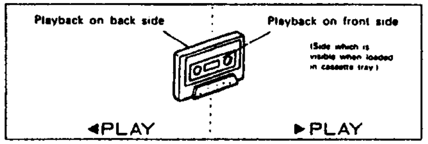
■ **Reverse mode**
Set the reverse mode switch (REV MODE) as follows:

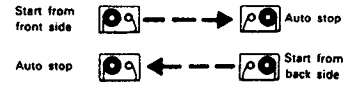
- **Single-side recording/playback mode (⇄)**
  In this position, only the front side or the back side of the cassette tape is played or recorded. (The tape stops automatically when the end of that side is reached.)
- **Two-side recording/playback mode (⊃)**
  In this position, when the end of the front side is reached, recording or playback automatically switches to the back side and continues from there. (The tape stops automatically when the end of the back side is reached.)
- **Continuous playback mode (⊂⊃)**
  When tape is loaded in only one of the decks, playback continues until the STOP button is pressed.
- **Relay playback mode (⊂⊃)**
  When tapes are loaded in both decks, playback continues from deck 1 onto deck 2, and then back again, as shown in the diagram at the right.

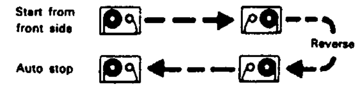
Cassette Tapes

■ **Handling Precautions**
- C-120 cassette tapes
  Avoid using 120-minute cassette tapes, since they have extremely thin tape which tends to become wound onto the capstans or pinch rollers.
- Tape slack
  If the tape is slack, it may become wound onto mechanism parts or otherwise damaged. Take up the slack with a pencil before loading the cassette.

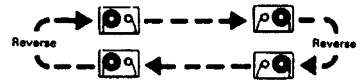

DENON
Accidental erasure prevention tab for side A
Accidental erasure prevention tab for side B



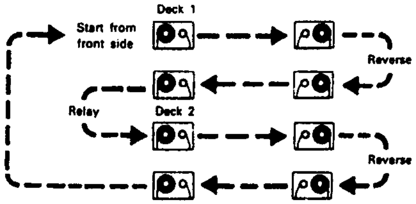




- If you start playing or recording from the back side, the tape will stop automatically at the end of the back side.



- The reverse recording/playback mode (⊃) is set automatically during recording.



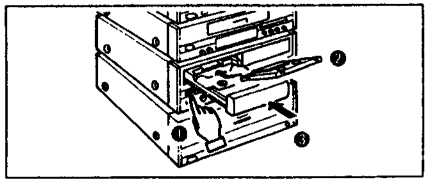
■ **Storage Precautions**
- Avoid storing in the following places:
  - Hot, humid places
  - Dusty places
  - Places exposed to direct sunlight
  - Near magnetic fields (TVs, speakers, etc.)
- Store the cassette tape in a case equipped with stoppers to keep the tape from coming slack.

■ **Protecting Cassette Tapes From Being Erased Accidentally**
- Cassette tapes are equipped with accidental erasure prevention tabs. To protect recorded tapes from being erased accidentally, use a screwdriver, etc., and break these tabs off.
- To record on a cassette tape whose accidental erasure prevention tabs have been broken off, place a pieced of cellophane tape over the hole.

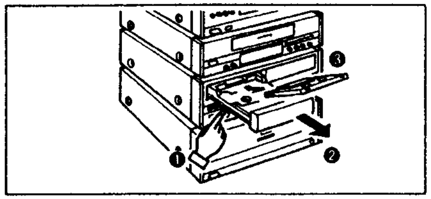
Before Operating

Loading and Unloading Cassette Tapes (Common for Deck 1 and Deck 2)

- **Loading**
  ① Press the OPEN/CLOSE button (⏏) to open the cassette tray.
  ② Set the tape in the cassette tray with the open side (on which the tape is exposed) facing away from you.
  ③ Press the OPEN/CLOSE button again to close the tray.



- **Unloading**
  ① Press the STOP button (■).
  ② Press the OPEN/CLOSE button (⏏) to open the cassette tray.
  ③ Remove the cassette tape.



Check the following before recording or playing cassette tapes:
1. Is the head dirty?...
   The sound quality will be poor if the head is dirty. Refer to Page 21.
2. Are the accidental erasure prevention tabs broken off?...
   Recording is not possible if these tabs are broken off. Refer to Page 13.

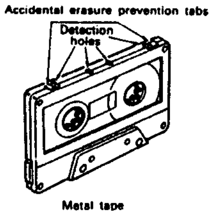
NOTE:
- Load the cassette tape on an angle with the open side facing away from you. Loading it in the opposite direction can cause damage.
- Do not press the OPEN/CLOSE button during playback or recording. Always press the STOP button before pressing the OPEN/CLOSE button.

Using the Tape Counter (Linear Tape Counter)
- This counter displays the elapsed running time of the tape in minutes and seconds.
- The counter can be reset to 00.00 by pressing the COUNTER RESET button. Or, the counter will also be reset when the tape is loaded or unloaded.
- Making a memo of the contents of a recording and the range of the counter numbers while you are recording or playing back a tape will be convenient when you search for a portion of the tape to which you would like to listen.

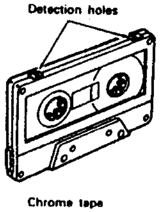
NOTE:
- This deck's linear tape counter has been set for the following cassette tape lengths: C46, C50, C54, C60, C74, C90, C100, C120, C46L, C50L, and C54L. (L indicates large-hubbed cassettes.) Using a tape that lies outside of this range, or a tape with a different length than the displayed lengths, will result in error. When using a tape that is not included in the TAPE SIZE selection, select the tape size closest to the length of the tape to be used. (This will reduce the error.)
- The linear tape counter is not accurate like a clock. The thickness of the tape will differ depending on the type of tape used (tape position and time), and so there will be some error introduced. Error also arises from the difference between tapes with smaller and larger hubs, and shows up in the remaining tape display (END mark).

Auto Tape Selector Mechanism

This deck is equipped with an auto tape selector mechanism which uses the detection holes in the cassette halves to automatically set the recording bias and equalization best suited for that type of tape.
- Do not use ferrichrome tapes.
- Use metal tapes equipped with detection holes. (Use of the old type of metal tape without detection holes will result in the sound having an emphasized treble region.)



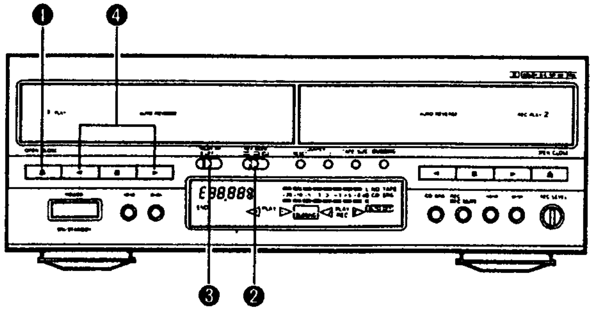
Metal tape



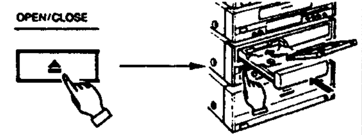
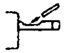
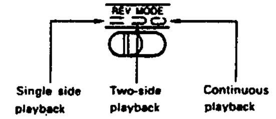
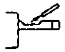
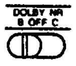
Chrome tape

9 PLAYING CASSETTE TAPES

(Single Side Playback, Two-Side Playback, and Continuous Playback)



- Functions common for deck 1 and deck 2.
- When operating from the remote control unit, the operation switches between deck 1 and deck 2 each time the DECK 1/2 button is pressed. The counter indicator (1 or 2) lights for the selected deck.

1	Press the OPEN/CLOSE button, and load a recorded tape into the tray. Refer to Page 14.		Loading the tape  The tape can be loaded easily by inserting it at an angle.
2	Set the REV MODE switch. Refer to Page 13.	 REV MODE Single side playback Two-side playback Continuous playback	Removing the tape  The tape can be removed easily by lifting it out toward yourself at an angle.
3	Set the DOLBY NR switch. Refer to Page 6 ❼.	 Set to B or C (as indicated on the tape) for tapes recorded with Dolby NR.	
4	Press the play button (▶ or ◀).	 Playback starts in the direction of the button pressed.	Press the stop button ■ to stop the playback.

PLAYING CASSETTE TAPES

Using the MS (Music Search) Function and the Music Search Display

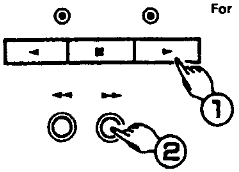
Using the MS (Music Search) Function

■ Use this function to move to the beginning of the following section or return to the beginning of the current selection.

① Press ▶ or ◀.

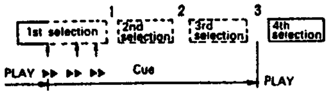
② Press ▶▶ or ◀◀.

- In the rewind direction, playback starts from the beginning of the selection which is currently playing, and in the fast-forward direction, playback starts from the beginning of the following selection.



The tape skips by a number of selections equal to the number of times the ▶▶ or ◀◀ button is pressed.

For example:



- For the normal fast-forward or rewind operations, press the stop button ■ before pressing the ▶▶ or ◀◀ button.

Display During the Music Search Operation

During the music search operation, the number of selections being skipped is indicated on the tape counter, and this number decreases each time a blank section is detected (for example, 3 → 2 → 1).

- When skipping back to a previous selection

P-03 ←Number of tracks to be skipped

↑This lights when skipping backward

- When skipping ahead to a following selection

P 05 ←Number of tracks to be skipped

Adjustment of the Recording Input Level Control

Too high a recording level will result in a recording which has a high degree of distortion, whereas too low a recording level will result in a high degree of noise. Adjustment of the recording input level is of the utmost importance in making a well-balanced recording.

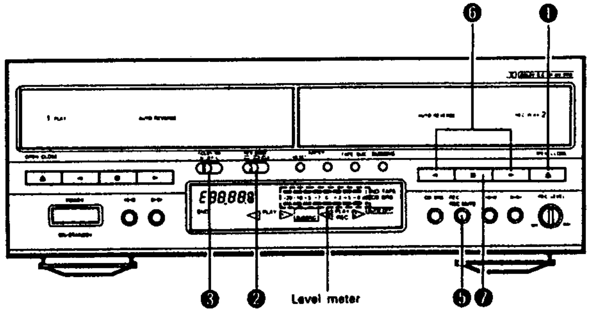
Guide to Recording Input Levels

Type I (normal) tapes	0 dB
Type II (CrO_2) tapes	+3 dB
Type IV (metal) tapes	+3 dB

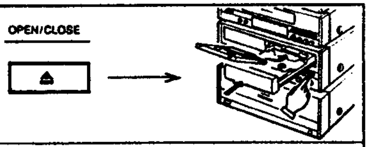
NOTE:

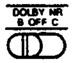
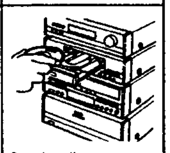
The optimum recording level will actually differ depending on the source and the type of tape, and so a trial recording should be made.

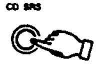
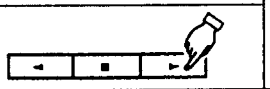
10 RECORDING CASSETTE TAPES



- The positions of the VOLUME and tone controls do not affect the sound being recorded.

<table>
<tr><td>1</td><td colspan="3">Press the OPEN/CLOSE button ▲ for deck 2 and load the tape to which you will record. Refer to Page 14.
OPEN/CLOSE
</td></tr>
<tr><td>2</td><td colspan="3">Set the REV MODE switch to ⇄ or ⊃. Refer to Page 13.
Single-side recording Two-side (reverse) recording.

REV MODE</td></tr>
<tr><td>3</td><td colspan="3">Set the DOLBY NR switch. Refer to Page 6 ❸.

DOLBY NR B OFF C
Set to B or C to record with Dolby Noise Reduction.</td></tr>
<tr><td rowspan="2">4</td><td>Recording from the radio</td><td>Recording from a VDP or DAT</td><td>Recording from a CD player</td></tr>
<tr><td>
BAND
Press the BAND selector button.
↓
Select the station you wish to record. (Refer to Page 9.)</td><td>
FUNCTION
Press the tuner-preamplifier's FUNCTION button and select PHONO or DAT.
↓
Start playback on the VDP or DAT.</td><td rowspan="1">
Set the disc in the CD player. (Refer to Page 16.)</td></tr>
<tr><td>5</td><td colspan="2">Press the REC/REC MUTE button.

REC/ REC MUTE
The REC (recording) indicator lights.</td><td rowspan="2">(5) CD SRS

Press the CD SRS button. The CD SRS indicator lights and recording starts.</td></tr>
<tr><td>6</td><td colspan="2">Press the ▶ or ◀ button. (Recording starts)
</td></tr>
<tr><td>7</td><td colspan="3">To stop recording, press the stop button.
 </td></tr>
</table>

Adjust the recording level.

Recording level control
MIN
MAX
REC LEVEL

Adjust the lighting condition of the level meter with the recording level control. Refer to the section on Page 15.

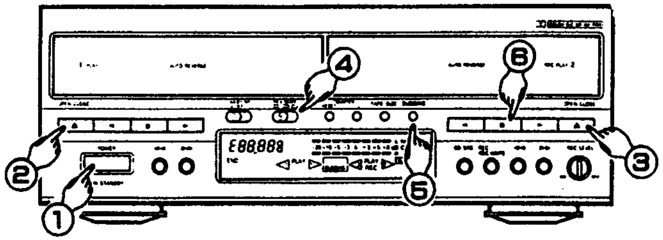
- When the CD SRS button is pressed, a 7-second blank portion is automatically created before recording starts.

RECORDING CASSETTE TAPES

• Making a Synchro Dubbing (Copy)

Synchro dubbing (tape copying) can be made at regular speed from deck 1 to deck 2.

☞ Press the SYSTEM POWER button of the tuner-preamplifier.



① Press the SYSTEM POWER button of the tuner-preamplifier or press the POWER ON/STANDBY button of the deck.
② Press the OPEN/CLOSE (▲) button and load the tape to be played back in deck 1.
③ Press the OPEN/CLOSE (▲) button and load the tape to be recorded back in deck 2.
④ Set the reverse mode with the REV MODE switch.
(REV MODE ⊐⊏ : ⊐ : ⊂⊃)
⑤ Press the DUBBING (synchro dubbing) button. Note that if the POWER ON/STANDBY button of the deck is pressed to switch on the power, the power of the tuner-preamplifier will automatically be switched on when the DUBBING button is pressed. You will be able to hear the audio normally.
⑥ To stop the dubbing, press the stop button (■) or press the DUBBING button.
The tape will automatically stop when it reaches the end and the synchro dubbing mode will be cancelled.

- Recording level during synchro dubbing
  During synchro dubbing, the recording is made at the same level as the playback tape of deck 1, regardless of the position of the recording level control. Note that when the recording tape and the playback tape are of different types, the recording level might be different and so synchro dubbing should be done with the same type of tape if possible.

- Dolby NR mode during synchro dubbing
  The Dolby NR system is automatically disengaged from the panel switch during synchro dubbing (even though the display does not change) and the tape is recorded with the Dolby NR mode of the playback tape.

- You can listen to the sound of another source while synchro dubbing.
  Changing the source with the FUNCTION button or the CD play button will not interrupt the synchro dubbing.

- When synchro dubbing, both decks begin running in the forward direction (from the A side).

- The synchro DUBBING button is effective in starting the operation only when both tapes are in the stopped condition.

- The following buttons do not function during the synchro dubbing operation: forward play ▶, reverse play ◀, fast forward ▶▶, rewind ◀◀, and REC/REC MUTE.

- To ensure complete reproduction, use the same length of recording tape as the playback tape, and rewind both tapes to the beginning of side A before starting the dubbing operation.

- By setting the REV MODE switch to the ⊐ or ⊂⊃ position, when the playback tape of deck 1 reverses at the end of the tape on side A, the deck 2 tape will reverse at the same time and dubbing can continue on side B.

11 PLAYING CDs

Compact Discs

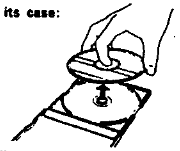
- Press the OPEN/CLOSE button (▲) once to open the disc try, once again to close it.
- The disc tray can also be closed by pressing the play (▶) button.
  When this is done, playback automatically starts from the first track on the disc (or if the tracks are programmed, the first programmed track).
- Load the disc with the label side facing up, being careful not to touch the disc surface.
- Load the disc with the disc tray open all the way.
- Set the disc securely in the tray guide at the center of the disc tray.
  To play an 8 cm disc, place the disc in the sunken part at the center of the disc tray.
- When the disc tray is closed, the disc turns automatically for several seconds, and the number of tracks and total playing time appear on the display.

COMPACT disc DIGITAL AUDIO Only discs with this mark can be played.

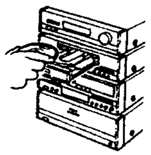
- For CDVs, only the audio part is played (the video part is not played).

Disc	Remarks
CD	
CDV	Only the audio part is played.
CD single (8 cm)	

■ When removing the disc from its case:
As shown in the diagram, grasp the disc along the edges, gently press down on the hole in the middle with a finger, and lift the disc. It should come out easily.

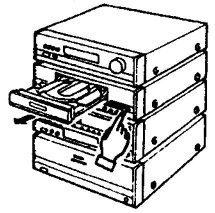


■ When setting the disc in the disc tray:
Always set the disc with the label side facing up. (Compact discs can only be played on one side). For 8 cm CDs, set the disc in the sunken part in the middle of the tray.

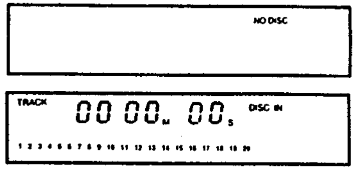


Handling the Disc Tray
Do not switch off the power or push or pull the disc tray when it is moving, since this may damage it.
If the cord of a set of headphones, etc., gets caught in the disc tray when it is closed, press the OPEN/CLOSE button (▲) again.

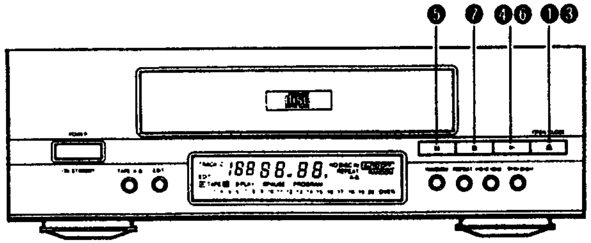
- Never set objects other than CDs in the disc tray, as this can cause damage.



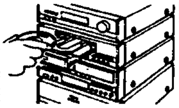
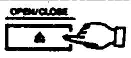
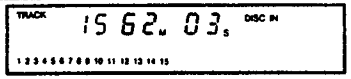
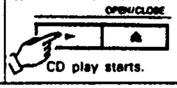
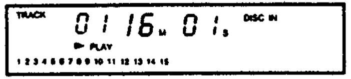
NOTE:
"NO DISC" is displayed on the display window when no disc is loaded, when the disc is loaded upside-down, or when the disc is not properly loaded. Also, " 00. 00. " may appear during playback of a CD if the disc is scratched or dirty. If this happens, the set will not operate when a normal operating button (other than the OPEN/CLOSE button) is pressed, so press the OPEN/CLOSE (▲) button, remove the disc, clean it as necessary, then press the PLAY (▶) button again.



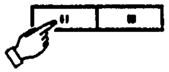
Regular Play



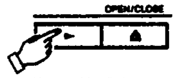
Example: Playing a CD with 15 tracks and a total playing time of 62 minutes 03 seconds, starting from track 1

1	Press the OPEN/CLOSE button.	The disc tray opens.	
2	Set the CD in the disc tray. Refer to Page 16.		The display appears several seconds after the disc tray closes.
3	Press the OPEN/CLOSE button.	 The disc tray closes.	
4	Press the play button.	 CD play starts.	

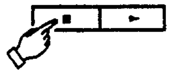
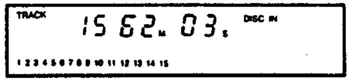
To stop play temporarily:

5	Press the pause button.		"▶ PLAY" goes off and "II PAUSE" appears. CD play is paused at the point the button is pressed.

To resume CD play:

6	Press the play button.		II PAUSE" goes off and "▶ PLAY" appears. CD play resumes from the point the pause button was pressed.

To stop CD play:

7	Press the stop button.		

NOTE:

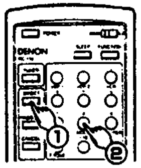
- 00 is displayed on the track number section of the display for several seconds after the disc is set, while the data on the number of tracks, playing time, etc., is being read from the disc. After this, the number of tracks and total playing time appear.

Various CD Play Functions

(Insert the disc before performing the following operations.)

❶ Playing Certain Tracks .... DIRECT SELECTION

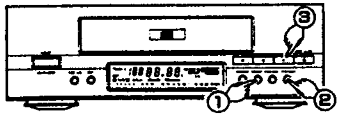
Example: Playing the 8th track
Perform this operation from the remote control unit.



① Press the DIRECT button.
② Press track button "8". "TRACK 8" appears on the display, and the 8th track begins playing.
- When the end of the track is reached, play continues on to the next track.

- For track numbers of 11 and higher, for example 15, press [+10] and [5]. For track numbers of 20 and higher, for example 23, press [+10], [+10], and [3]. For track number 20, press [+10] and [10].

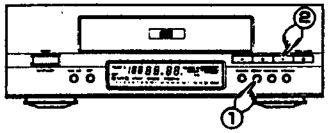
❷ Playing 1 Track Repeatedly .... 1 TRACK REPEAT



① Press the REPEAT button once.
② Press the ⏮◀◀ or ▶▶⏭ button, and select the desired track.
③ Press the play button (▶) to start play.

- When the specified track finishes playing, the pickup returns to the beginning of that track and play is repeated.
- If the REPEAT button is pressed once during play, the track will be played repeatedly.
- If the REPEAT button is pressed once during programmed play, the track will be played repeatedly.
- If the REPEAT button is pressed once while the disc is stopped, the TRACK numbers indicator flashes and the 1 track repeat play mode is set.

❸ Playing All Tracks Repeatedly .... ALL TRACKS REPEAT

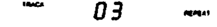


① Press the REPEAT button twice.
② Press the play button (▶) to start play.

- When the last track finishes playing, the pickup returns to the first track of the disc and play is repeated.
- If the REPEAT button is pressed twice during play, the disc will be played repeatedly.
- If the REPEAT button is pressed twice during programmed play, the program will be played repeatedly.
- If the REPEAT button is pressed twice while the disc is stopped, the TRACK numbers indicator lights and the all tracks repeat play mode is set.

❹ Playing a Specific Section Repeatedly .... SECTION REPEAT

Example: The CD has a total of 15 tracks

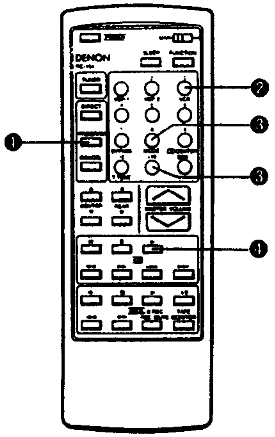
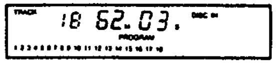
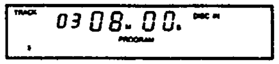
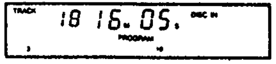
1st time	(1) Press the REPEAT button during CD play. 	Only that track is played repeatedly, and that track number lights on the music calendar. * With a 1-track repeat of track 21 or higher, "TRACK No." flashes.
	(2) Press the REPEAT button before CD play.	The total number of tracks flashes, and then ① the first track is repeated by pressing the play button ② when play is started by direct selection from the remote control or with the ⏭ or ⏮ button, only those selected tracks are played repeatedly.
2nd time	Press the REPEAT button before CD play or during CD play.	The track numbers contained on the disc light up on the music calendar, and all tracks are played repeatedly.
3rd time	Press the REPEAT button during CD play.	"REPEAT A-" lights up. If nothing else is done, all tracks are played repeatedly.
4th time	Press the REPEAT button during CD play.	"REPEAT A-B" lights up. The A-B section is played repeatedly.
Pressing the REPEAT button once again returns the player to regular CD play.		

❺ Playing Certain Tracks in any Desired Order .... PROGRAMMED SELECTION

(Perform this operation from the remote control unit.)

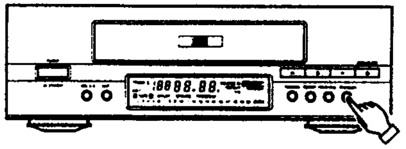
Example: Programming track 3 to play first, track 18 to play second, on a CD with 18 tracks and a total playing time of 62 minutes, 3 seconds

Setting and Playing the Program (Set the Slide Switch to the "MAIN" Side.)

1	Press the PROGRAM button.		 TRACK 18 62.03. DISC IN PROGRAM 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
2	Set track 3 to play first.		 After 2 seconds The display when track 3 is set to play first Time of first track: 8 minutes, 00 seconds
3	Set track 18 to play second.		 After 2 seconds The display when track 18 is set to play second Total time of tracks 1 and 2: 16 minutes, 05 seconds
4	Press the play button.		The tracks start playing in the programmed order.

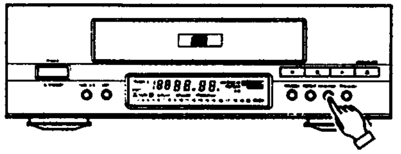
- The numbers of the programmed tracks go off once the tracks are played.
- The time display will read "— — M — — S" if a track number of 31 or higher is set in the program.
- When a program is set during CD play after a direct selection, the track currently playing is set as the first track in the program.
- Up to 20 tracks of your choice from among track numbers 1 through 99 can be programmed with this CD player.
- If you attempt to set a track number that is greater than the number of tracks on the disc, that track number will not be displayed when the buttons are pressed.
- Programming is also possible when the disc tray is open. In this case, track numbers greater than the number of tracks on the disc can be programmed, but these are ignored when the disc is played.
- There is a silent interval of 4 seconds between tracks. This is has been designed to create a blank section of 4 seconds between selections when recording programmed tracks onto tape.
- The entire program is cleared when the disc tray is opened or closed (by pressing the ▲ button).
- If you make a mistake when programming tracks, press the CANCEL button and program again. (Each press of the CANCEL button cancels the last track.)
- An A-B section repeat is not possible during programmed play.
- Other operations possible during programmed play:
  The quick search, pause, skip monitor, and other operations can be used during programmed play. To move to the beginning of the previous track with the quick search operation, press |◀◀ ◀◀ once, then once again while the time display reads '00M 00S. To move to the beginning of the following track, press ▶▶ ▶▶| once, regardless of the time display.
- Perform programming and canceling in the stop mode.

❻ Moving to the Next Track During CD Play .... QUICK SEARCH



① Press the auto search forward button (▶▶ ▶▶|).
- Each press of the auto search forward button (▶▶ ▶▶|) moves the pickup to the beginning of following tracks.

❼ Moving Back to the Beginning of the Current Track During CD Play .... QUICK SEARCH

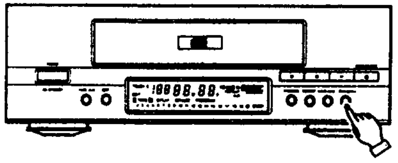


① Press the auto search backward button (|◀◀ ◀◀).
- Each press of the auto search backward button (|◀◀ ◀◀) during the search operation moves the pickup to the beginning of previous tracks.

❽ Searching for Tracks While Listening to the Sound .... SKIP MONITOR

- Use this to skip through a disc listening to the sound at high speed.
  This function is convenient when searching for a certain section within a long track.
- Use the skip monitor function to find the desired position, then release the search button to start regular playback from there.

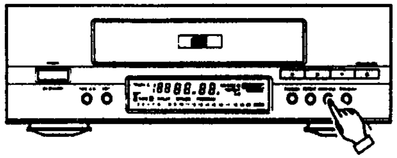
1 Forward skip monitor



① During CD play, press and hold in the forward search button (▶▶ ▶▶|) to skip forward while listening to the sound.

- The track number and elapsed playing time of the track being skipped through are indicated on the display.
- If the end of the last track on the disc is reached while pressing the search button, ( ]]) appears on the display and the skip monitor operation stops. To resume CD play, press the search backward button (|◀◀ ◀◀) until ( ]]) switches to the track number, then perform a different operation.

2 Backward skip monitor



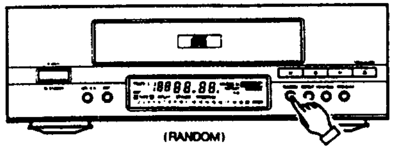
① During CD play, press and hold in the backward search button (|◀◀ ◀◀) to skip backward while listening to the sound.

- The track number and elapsed playing time of the track being skipped through are indicated on the display.
- If the beginning of the first track on the disc is reached while pressing the search button, ([[ ) appears on the display and the skip monitor operation stops. To resume CD play, press the search forward button (▶▶ ▶▶|) until ([[ ) switches to the track number, then perform a different operation.

If the forward or backward skip button is pressed during programmed CD play and released at a track which has not been programmed, the next programmed track will be played once that track has been played to the end.

❸ Playing Tracks in Random Order .... RANDOM SEARCH

- The function plays each track on the disc once in random order.



(RANDOM)

- A press of the RANDOM button lights the RANDOM indicator to show that the random mode has been set. Random search will begin when the play button is pressed and the disc will start playing automatically.
- Simply pressing the RANDOM button during CD play will start the random search and start random play.
- Pressing the RANDOM button when a program has been set will play the programmed tracks in random order.
- Pressing the RANDOM button when repeat play has been set will play the tracks through randomly one time, and each time following this there will be a random search with a different pattern.
- An A-B section repeat is not possible during random play.
- During the search operation, the track numbers of the disc from track 1 to the last track will be repeatedly displayed at high speed in the TRACK NO. section, and the following tracks to be played will not be known from the end of the search to the time CD play begins.
- Pressing the RANDOM button when 1-track repeat has been set will automatically change the setting to all tracks repeat and these tracks will be played randomly.

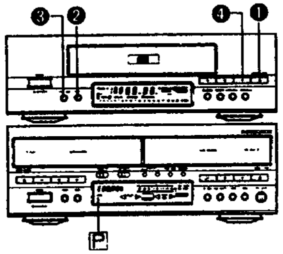
NOTE:

Random play is not possible during the edit operation.

Edited Recording onto Sides A and B of a Tape (EDIT)

Editing is possible with CDs containing up to 20 tracks.

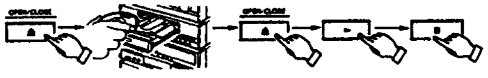
Before starting the edited recording operation, load the cassette tape to which you will record into deck 2 with side A facing up. The leader tape is automatically taken up before recording starts. (Set the REV MODE switch to the ⊐ position.)



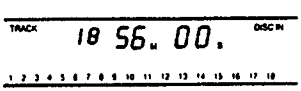
❶ Automatic Edited Recording .... RECORDING IN THE SAME ORDER AS ON THE DISC

Example: Recording a disc with 18 tracks and a total playing time of 56 minutes onto a C-60 cassette tape

1


OPEN/CLOSE
OPEN/CLOSE

Press the OPEN/CLOSE button. → Set the disc. → Press the OPEN/CLOSE button. → Press the play button and set the function to CD. → Press the stop button.

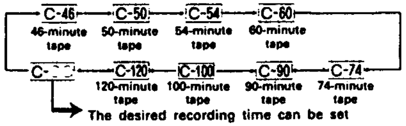

TRACK
18 56M 00S
DISC IN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

2

EDIT

Press the EDIT button to set the tape length.
Press the EDIT button four times when using a 60-minute (C 60) tape.
(The tape length is to total time of sides A and B.)

The display changes as follows each time the EDIT button is pressed. (When the tape time has already been set, the display will change in order starting at that time each time the EDIT button is pressed.)

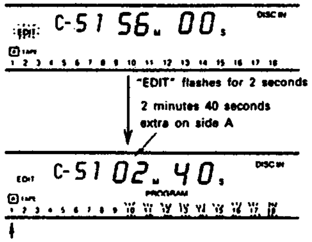

C-46
46-minute tape
C-50
50-minute tape
C-54
54-minute tape
C-60
60-minute tape
C-74
74-minute tape
C-90
90-minute tape
C-100
100-minute tape
C-120
120-minute tape
C-

The desired recording time can be set when this is displayed.
(Method 1)

Example: For a 36-minute tape, use the ⏮◀◀ or ▶▶⏭ button to set 36.
To set the tape length using the remote control unit, use the number buttons. For example, in the case of a 30-minute tape, press +10 twice and press 10.

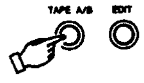
If you make a mistake, press the EDIT button to display C-00, then start over again.

Setting the desired recording time (Method 2)
Select a tape length close to the desired time, then make a fine adjustment using the ⏮◀◀ or ▶▶⏭ button.
For example, to set 51 minutes, select C-50, then press the ▶▶⏭ button once to set C-51.


EDIT
C-51 56M 00S
DISC IN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
"EDIT" flashes for 2 seconds
2 minutes 40 seconds extra on side A
EDIT
C-51 02M 40S
DISC IN
PROGRAM

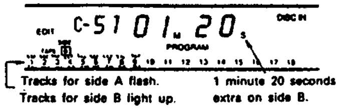
Tracks for side A light up. Tracks for side B flash.
(Tracks 1 through 9 are recorded on side A.)
(Tracks 10 through 18 are recorded on side B.)

3

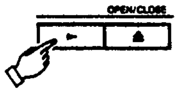

TAPE A/B
EDIT

A/B button is pressed.
(Use this to check the extra time on side B.)

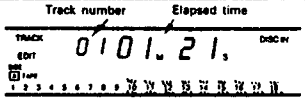
The display changes between sides A and B each time the TAPE


EDIT
C-51 01M 20S
DISC IN
PROGRAM
Tracks for side A flash.
Tracks for side B light up.
1 minute 20 seconds extra on side B.

4



Press the play button.


Track number
Elapsed time
TRACK
EDIT
01 01M 21S
DISC IN

- Note that in some cases, even if the tape is longer than the total playing time on the disc, it may not be possible to record all the tracks onto the tape, since they are divided onto sides A and B. In such cases, the OVER indicator flashes.

NOTE:

- With edited recording, side B of the tape will be recorded automatically even when the REV MODE switch of the deck is set to the ⇄ position.
- During edited recording, only the following buttons will function: the stop button of the CD or the OPEN/CLOSE button, and the stop button of the deck.
- When using a recorded tape for edited recording, the tape should be erased before use, since when the tape is longer than the set time, an unrecorded section of side B will remain after the tape stops.
  When a tape which has been recorded with this system is played back, there will be 4-second blank portions between tracks (for making it easy to reach the beginning of a track). This will differ from the actual silent portions between the tracks on the disc, and so there will be some error in the actual remaining time of the tape and the displayed time.

❷ Programmed Edited Recording .... RECORDING CERTAIN TRACKS IN ANY DESIRED ORDER

① Follow the instructions under "PROGRAMMED SELECTION" on Page 18 to program the tracks.
② Perform steps 2 through 4 under the aforementioned "Automatic Edited Recording".

Programmed CD Play Using the Search Buttons (⏮◀◀ ▶▶⏭)

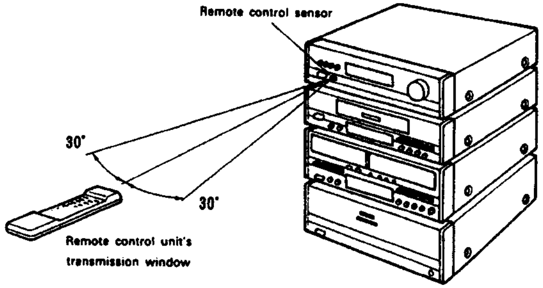
Pressing the PROGRAM button of the remote control unit will light up the "PROGRAM" indicator. When the disc is stopped, programming can be done with the search buttons (⏮◀◀ ▶▶⏭) on the CD player or with the search buttons (⏮◀◀ ▶▶⏭) on the remote control unit.

- Select the tracks with the search buttons, then press the PROGRAM button to program them.
- The search buttons (◀◀ ▶▶) can be used to change the track numbers continuously.
- After the track numbers have been selected with the search buttons, if the play button is pressed to start CD play before the PROGRAM button is pressed, the last track of the program set up to this point will be played.
  In this case, the tracks selected with the search buttons will not be programmed.

12 REMOTE CONTROL UNIT

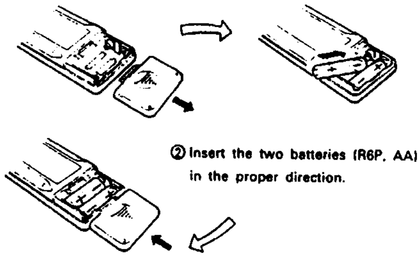
Cautions on Use

1. The D-250 is supplied with a remote control unit (RC-154) for system control.
2. Replace the batteries with new ones when the transmission distance possible with the remote control unit shortens.
3. For longer battery life, remove the batteries when not using the remote control unit for long periods.
4. When replacing batteries, use two new batteries. Never use an old battery with a new one.
5. Do not use two different types of batteries.
6. Do not heat batteries or take them apart.
7. Be careful that the remote control sensor is not exposed to direct sunlight or strong light from lighting fixtures.
8. The remote control sensor is located on the tuner preamplifier. Point the remote control unit at the sensor, then press the buttons for the desired operation.
9. Operate the remote control unit within the range illustrated in the diagram.



Inserting the Batteries

① Open the battery case lid on the back of the remote control unit.



② Insert the two batteries (R6P, AA) in the proper direction.

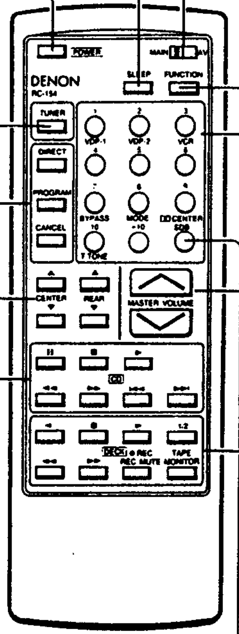
③ Set the battery case lid back in place.

 appears at the upper left corner of the tuner-preamplifier's display when a signal is received.

- The remote control unit can be used at a distance of about 7 meters from the remote control sensor, but this distance will be shorter if there are obstacles in the way or if the remote control is operated from an angle.

10. Do not press buttons on the remote control unit and on the main unit at the same time. Doing so will lead to a malfunction.
11. If appears on the tuner-preamplifier's display due to incident light even though the remote control unit has not been operated, it is best to move the set or place it in a different direction. Even if this happens, it will not cause a malfunction with remote control unit.
12. When adjusting the volume continuously with the remote control unit, the volume adjustment will stop if the remote control unit is moved away from the remote control sensor. Should this happen, press the button again to continue changing the volume.

Button Names and Functions



SLEEP

Press this to set the sleep timer.

POWER

Press this to switch on the power for the entire system or set the system to standby.

TUNER

Press this to listen to the preset stations.

CD Play

DIRECT button
Press for direct track selection of CD player.

PROGRAM button
Press for programmed selection of CD player.

CANCEL button
Press once during programming to cancel the last track programmed.

CENTER and REAR level

Use to adjust the volume of an optional AV amplifier. Press ▼ to lower the volume, ▲ to raise the volume.

Operating the CD Player

Pause button (II)
Press to temporarily stop CD play. Press the play button ▶ to resume play.

Stop button (■)
Press to stop CD play.

Play button (▶)
Press to start CD play.

Manual search backward button (◀◀)
Manual search forward button (▶▶)
Press these to quickly move backward or forward.

Backward skip monitor button (I◀◀)
Press during CD play to go back to the beginning of that track. Press the button again within 0.5 seconds to go back to the beginning of the previous track.

Forward skip monitor button (▶▶I)
Press during CD play to go forward to the beginning of the next track. Press the button again to go forward to the beginning of the track two tracks ahead.

SDB (Super Dynamic Bass)

Press this button for more powerful bass sound. Press again to return to the original setting.

When the MAIN/AV switch is set to the AV side, number buttons 4, 5, 6, and +10 can be used for the following operations. Use these buttons when a DENON AV amplifier having these functions is used with this system.

4 button → VCR-2
5 button → DBS
6 button → TV
+10 button → 3CH LOGIC

MAIN/AV switch

Switch to the AV side when the system is used together with the optional AV amplifier. Usually, this switch is set to the MAIN side. When set to AV, the number buttons switch over to the functions indicated below them.

FUNCTION (input switching) button

Switches the function between TUNER, TAPE, CD, PHONO, and DAT.

Number buttons

After pressing TUNER, these buttons call up the preset stations.
When used with CD play, after pressing DIRECT or PROGRAM, these buttons specify the tracks to be played.

MASTER VOLUME

Adjusts the volume.
Press V to lower the volume, and Λ to raise it.

Operating the Cassette Decks

Deck 1/2 button
Press this to select the deck to be operated.

Stop button (■)
Press this to stop the tape deck.

Forward play button (▶)
Press this to play back or record in the forward direction.

Reverse play button (◀)
Press this to play back or record in the reverse direction.

● REC/REC MUTEE button (recording/recording mute button)
To set the recording mode when in the stop mode, press this button, then press either the "▶" or the "◀" button. When pressed during the recording or recording pause mode, a blank section of approximately 5 seconds is created on the tape, after which the deck is set to the recording pause mode.

Rewind button (◀◀)
Press this to rewind the tape.

Fast-forward button (▶▶)
Press this to fast-forward the tape.

TAPE MONITOR button
Use this to monitor the sound of the tape. When used in combination with a 3-head deck, the recorded sound can be monitored (from the tape).

13 AUTO ON/OFF FUNCTION

- When the CD or deck play button, or the OPEN/CLOSE button is pressed from the standby mode, the power is switched on automatically, and the play or open/close operation is performed. The "AUTO OFF" indicator lights at this time.
- When play ends in this mode and there are no operations for 10 minutes, the power is automatically switched off and the system enters the standby mode. If there is no disc or cassette in the system, the power will be switched off in about 1 minute.
- When the disc tray or the cassette tray is open, the tray will close in about 1 minute.
- When the tuner number buttons (preset numbers) are pressed, the power will be switched on in the same way and the system will enter the auto off mode. In this case, the "TUNED" indicator will go off and 10 minutes later the power will be switched off.

14 IMPORTANT INFORMATION

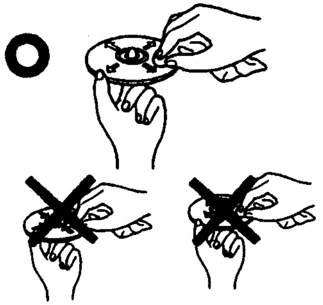
• Head Cleaning

After the cassette deck has been used for a while, powder from the tapes and dirt adhere to the head and lower the sound quality. Use a head cleaning cassette tape to clean.

NOTE:

Some of the cleaning sets on the market have a strong polishing effect which can damage the head.

- **Disc Cleaning**



Never use the following to clean discs:
- Solvents such as benzene or alcohol
- Cleaners containing abrasives
- Record sprays or cleaners
- Anti-static products

• Head Demagnetizing

The heads become magnetized after the deck has been used over a long period of time or if the heads are exposed to a magnetic field. This results in noise and reduced treble. In addition, there may be a reduction of the treble range of recorded tapes as well as noise produced on these tapes.

When the heads become magnetized, use one of the cassette tape head demagnetizers (erasers) available on the market to demagnetize the heads.

- For details, read the operating instructions of the demagnetizer.

Dust, fingerprints, or spittle on the disc can cause noise or skipping.

If the disc is dirty or if the player does not work properly, clean the disc as follows:

- Hold the disc as shown in the diagram, with the signal surface facing up (and the labelled side facing down).
- Using a soft cloth, wipe the disc gently from the inside straight towards the edges (as shown by the arrows).

- Do not wipe from the edges towards the center, or around the disc as you would wipe records.
- Do not use hard cloths or rub the disc forcefully, since the signal surface is susceptible to scratches.

15 SPECIFICATIONS

• **Tuner-preamplifier (UTP-250)**	
Reception Frequency Range:	FM: 87.50 MHz to 108.00 MHz AM: 522 kHz to 1611 kHz (MW), 153 kHz to 279 kHz (LW)
Receiving Sensitivity:	FM: 1.5 μV, 75 ohms (SN ratio 30 dB) AM: 20 μV (SN ratio 20 dB, MW), 35 μV (SN ratio 20 dB, LW)
FM Stereo Separation:	40 dB (1 kHz)
Bass Adjustment:	100 Hz ±8 dB
Treble Adjustment:	10 kHz ±8 dB
Super Dynamic Bass:	80 Hz +8 dB
Jacks:	PREOUT: Output jacks PHONO: Input jacks DAT: Input jacks, recording output jacks Processor: Processor input/output jacks
Dimensions (max.):	270 (W) × 86 (H) × 330 (D) mm (10-5/8" × 3-25/64" × 13")
Weight:	3.2 kg (7 lbs 10 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	18 W
• **Amplifier (UPO-250)**	
Rated Output Power:	50 W + 50 W (20 Hz to 20 kHz, 8 ohm)
Jacks:	6.3 mm headphone jack
Dimensions (max.):	270 (W) × 96 (H) × 330 (D) mm (10-5/8" × 3-25/32" × 13)
Weight:	4.1 kg (9 lbs 1 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	140 W
• **CD Player (UCD-250)**	
Wow and Flutter:	Below measurable limits (±0.001% W. Peak)
Sampling Frequency:	44.1 kHz
Light Source:	Semiconductor
Dimensions (max.):	270 (W) × 86 (H) × 313 (D) mm (10-5/8" × 3-25/64" × 12-21/64")
Weight:	3.1 kg (6 lbs 13 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	15 W
• **Cassette Deck (UDRW-250)**	
Type:	Horizontal 4-track, 2-channel auto reverse stereo cassette deck
Heads:	1 hard permalloy recording/playback head, 1 hard permalloy playback head, and 1 double-gap ferrite erase head
Tape Speed:	4.75 cm/s
Noise Reduction Circuits:	Dolby B and C NR
Usable Tapes:	Normal, chrome, and metal tapes
Dimensions (max.):	270 (W) × 96 (H) × 318 (D) mm (10-5/8" × 3-25/32" × 12-33/64")
Weight:	4.4 kg (9 lbs 11 oz)
Power Supply:	AC 230 V, 50Hz, AC 240 V, 50Hz (for U.K. model)
Power Consumption:	18 W
• **Remote Control Unit (RC-154)**	
Type:	Infrared pulse
Number of Buttons:	41 (including 1 slide switch)
Dimensions (max.):	60 (W) × 177 (H) × 18 (D) mm (20-23/64" × 6-31/32" × 45/64")
Weight:	130 g (Approx. 6.4 oz) (including batteries)

* Maximum dimensions include controls, jacks, and covers. (W) = width, (H) = height, (D) = depth

- For improvement purposes, specifications and functions are subject to change without advanced notice.

16 TROUBLESHOOTING

1. Check that the connections are proper.
2. Check that you are operating the system according to the instructions in the manual.

Check the following table if the system does not seem to be working properly.

If the problem is not solved after checking these points carefully, the system may be malfunctioning. Switch off the power and contact your store of purchase.

	Symptom	Cause	Measures	See Page
Common	Power does not come on when POWER button pressed.	• Power cord not plugged into outlet.	• Plug cord into outlet properly.	5
	No sound produced from speakers.	• VOLUME control set to minimum. • Headphones are plugged in. • Speaker cables not connected to speaker terminals.	• Turn VOLUME control clockwise (⌒). • Disconnect headphones. • Connect speaker cables properly.	6 6 5
	Treble not produced. Orientation of sound field not clear.	• Speaker polarities (+ and −) not • matched.	• Connect speaker cables properly. •	5
	Source other than the desired one is heard.	• Function selector button not set properly.	• Set to desired function.	6
Deck	Cannot record when REC/REC MUTE button pressed.	• No cassette tape loaded. • Accidental erasure prevention tabs of cassette broken off.	• Load tape. • Apply cellophane tape over holes.	14 13
	Sound is interrupted during playback and recording, or treble sound is low.	• Head dirty. • Tape stretched.	• Clean. • Replace tape.	21 –
	Wow (fluctuation) is heavy during playback and recording.	• Capstans and pinch rollers dirty.	• Clean.	21
	Buzzing noise heard during playback.	• Noise from TV. • (Some TVs produce noise.)	• Separate TV from system. • Turn off TV.	– –
Tuner	Hissing noise heard during FM reception.	• Antenna not pointed in proper direction. • Signals weak.	• Change direction of antenna. • Install outdoor antenna.	4 4
	Hissing or scratchy noise heard during AM reception.	• Noise from TV, etc., or interference from other stations.	• Turn off TV. • Change position of loop antenna. • Install outdoor antenna.	– – 4
	Hum noise heard during AM reception.	• Signals coming over power cord are modulated by power source frequency.	• Plug in cord in opposite direction. • Install outdoor antenna.	5 4
CD Player	Disc loaded but total number of tracks not displayed.	• Disc loaded upside-down. • Disc dirty. • Non-standard disc loaded.	• Reload disc. • Clean disc. • Replace with standard disc.	16 21 16
	Operation not performed when buttons pressed, or playback stops in middle of track.	• Disc loaded upside-down. • Foreign object in disc holder. • Disc dirty. • Disc scratched.	• Reload disc. • Remove disc and remove foreign object. • Clean disc. • Replace with non-scratched disc.	16 16 21 –
	Sound skips.	• Dust, fingerprints, or spittle on disc. • Disc scratched. • Player set in shaky, unstable place.	• Clean disc. • Replace with non-scratched disc. • Set player in stable place.	21 – –
	Buzzing noise mixed in with CD sound.	• Signals coming over power cord are modulated by power source frequency.	• Plug in cord in opposite direction.	5

Normal operation may not be possible if there is dirt or other substances on the surface of the internal objective lens or sensor.

These parts must be cleaned periodically depending on the place of installation.

For details, contact your store of purchase.

Avoid using ultrasonic humidifiers nearby.

If ultrasonic humidifiers are used nearby, the calcium, etc., included in the water may be scattered into the air, causing white dust to accumulate on the surface of the objective lens or sensor, resulting in improper operation.

Dew (Condensation) Phenomenon

Dew (water droplets) may form on the lens of the internal optical system or on the disc, or on the rotating parts of the tape deck in situations such as the following:

- Soon after a heater is put on.
- When the set is placed in a steamy or damp room.
- When the set is moved from a cold place to a warm room.

When Condensation Forms

The signals of the disc may not be read and this product will not operate properly. To remove the condensation, take out the disc and switch on the power. The condensation will evaporate within 1 hour and the set will operate normally.

This system consists of precision components using microprocessors. Avoid using it in places where there is much external noise. If used is such places, the system may not operate properly, but this is not a problem with the system. If the system does not operate properly, try performing the desired operation again.

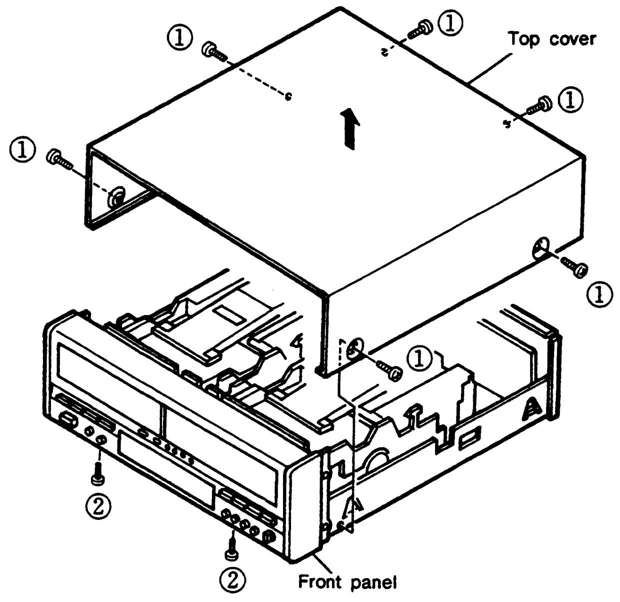
CASSETTE DECK SECTION

DISASSEMBLY PROCEDURES

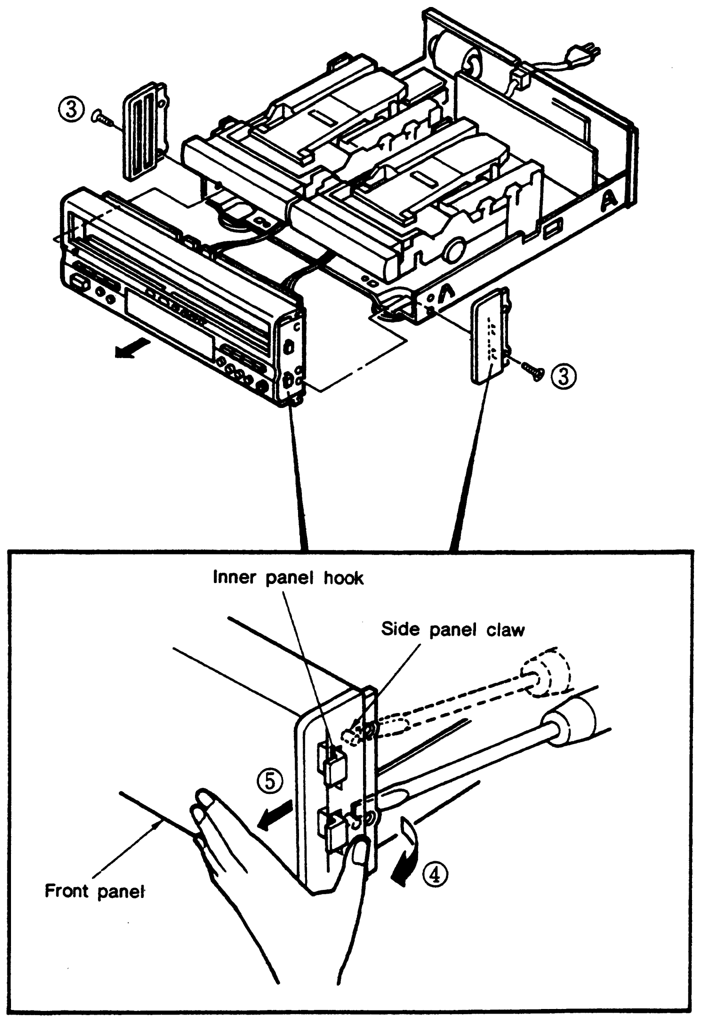
(Follow these procedures in reverse order to reassemble.)

1. Removing the top cover and front panel

① Remove the 6 screws which fasten the top cover.
② Remove the 2 screws of the bottom side which fasten the front panel.


①
①
Top cover
①
①
①
①
②
②
Front panel

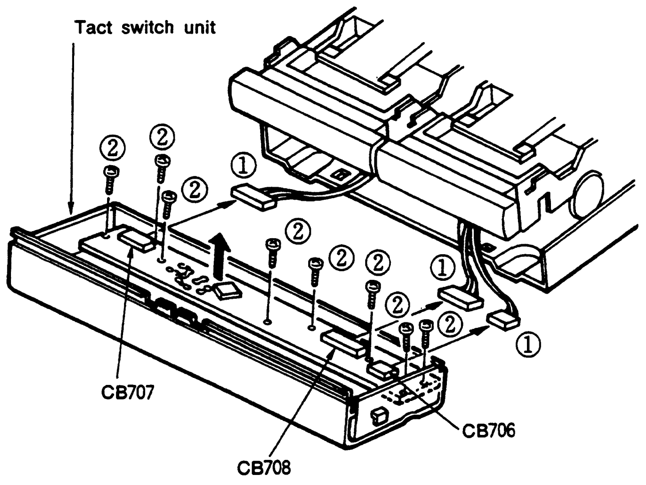
③ Remove the 2 screws which fasten the side plate.
④ While disengaging in the direction of the arrow the tabs of the side plate and the holes of the main chassis (with a flat-bladed screwdriver),
⑤ Push out the side plate in the direction of the arrow and remove from the hooks of the inner panel.
Using the same method for the left side, remove the side plate.
Remove the front panel in the direction of the arrow.


③
③
Inner panel hook
Side panel claw
⑤
④
Front panel

2. Removing the printed wiring boards

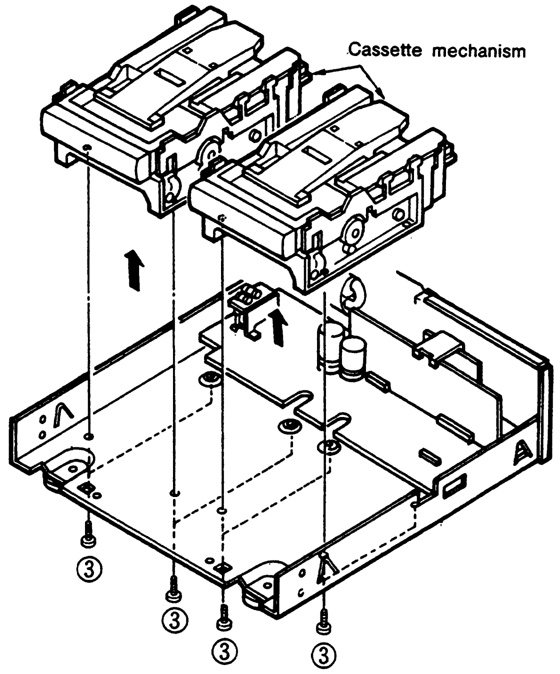
LCD, Tact Switch Unit IU-2479-2

① Disconnect connectors CB706, CB707, and CB708 which are attached to the LCD Tact switch unit.
② Remove the 8 screws which are attached to the LCD Tact switch unit and remove the board in the direction of the arrow.


Tact switch unit
②
②
②
①
②
②
②
①
②
②
①
CB707
CB708
CB706

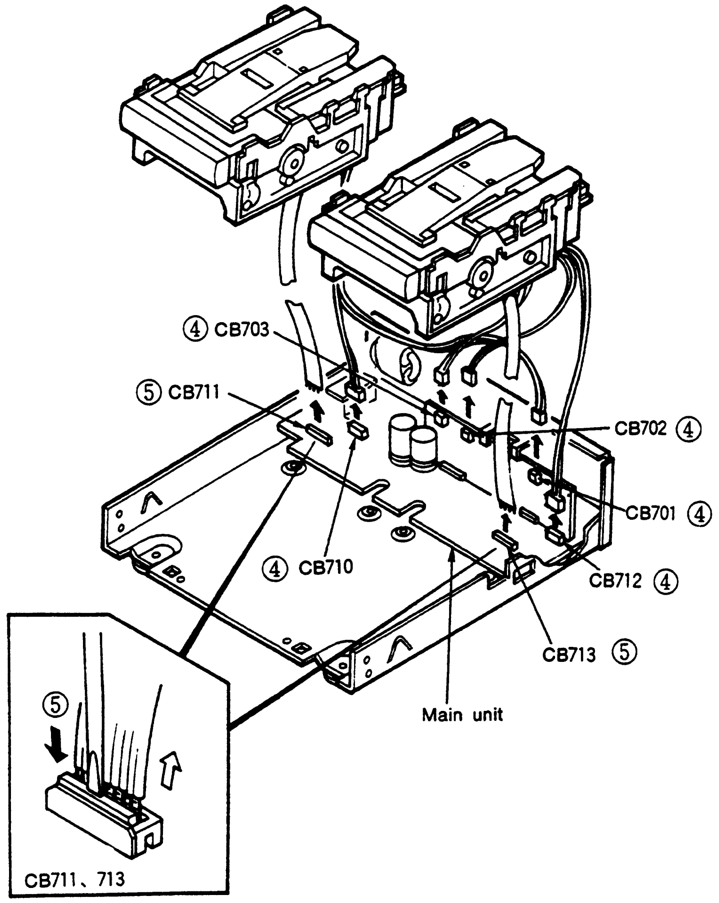
3. Removing the cassette mechanism

③ Turn the set upside down and remove the 8 screws which fasten the cassette mechanism unit. Lifting the chassis up will now allow the cassette mechanism unit to be removed.


Cassette mechanism
③
③
③
③

④ Disconnect connectors CB701, CB702, CB703, CB710, and CB712 which are attached to the main unit.

⑤ Using a flat-bladed screwdriver, press the head portion of connectors CB7111 and CB713, which are attached to the main unit, and while so doing disconnect in the direction of the arrow.

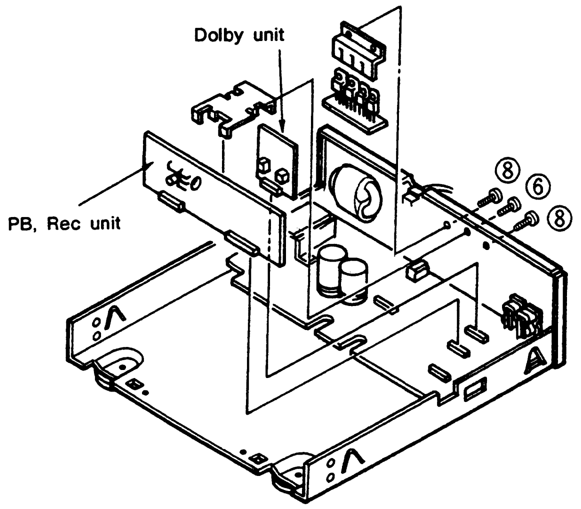

④ CB703
⑤ CB711
CB702 ④
CB701 ④
④ CB710
CB712 ④
CB713 ⑤
Main unit
⑤
CB711、713

PB, REC UNIT IU-2479-3
DOLBY UNIT IU-2479-4
P. TR & IC UNIT IU-2479-5

⑥ Remove the screw of the mounting fitting of the board which is attached to the rear panel.

⑦ Remove the playback and record unit, and the Dolby unit.

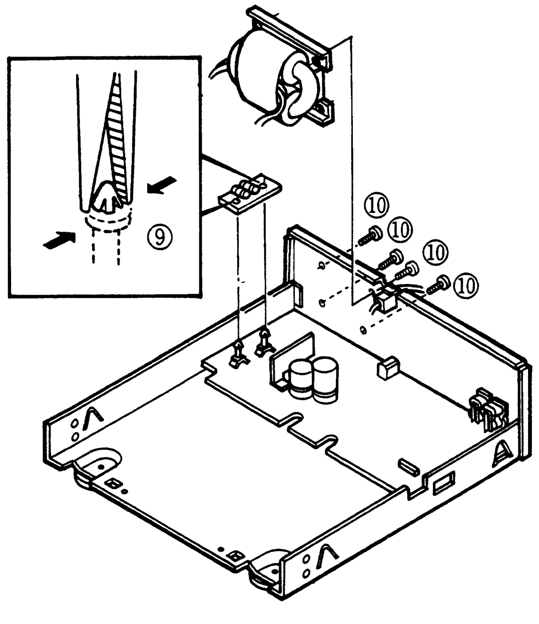
⑧ Remove the 2 screws which fasten the P. TR and IC unit.


Dolby unit
PB, Rec unit
⑧
⑥
⑧

EX. UNIT IU-2476-6

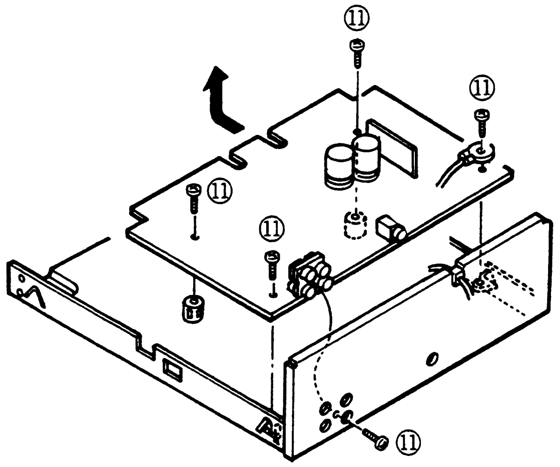
⑨ Use a pair of long-nosed pliers to disengage the board catch, which fastens the EX unit, in the direction of the arrow.

⑩ Remove the four screws which fasten the power transformer.



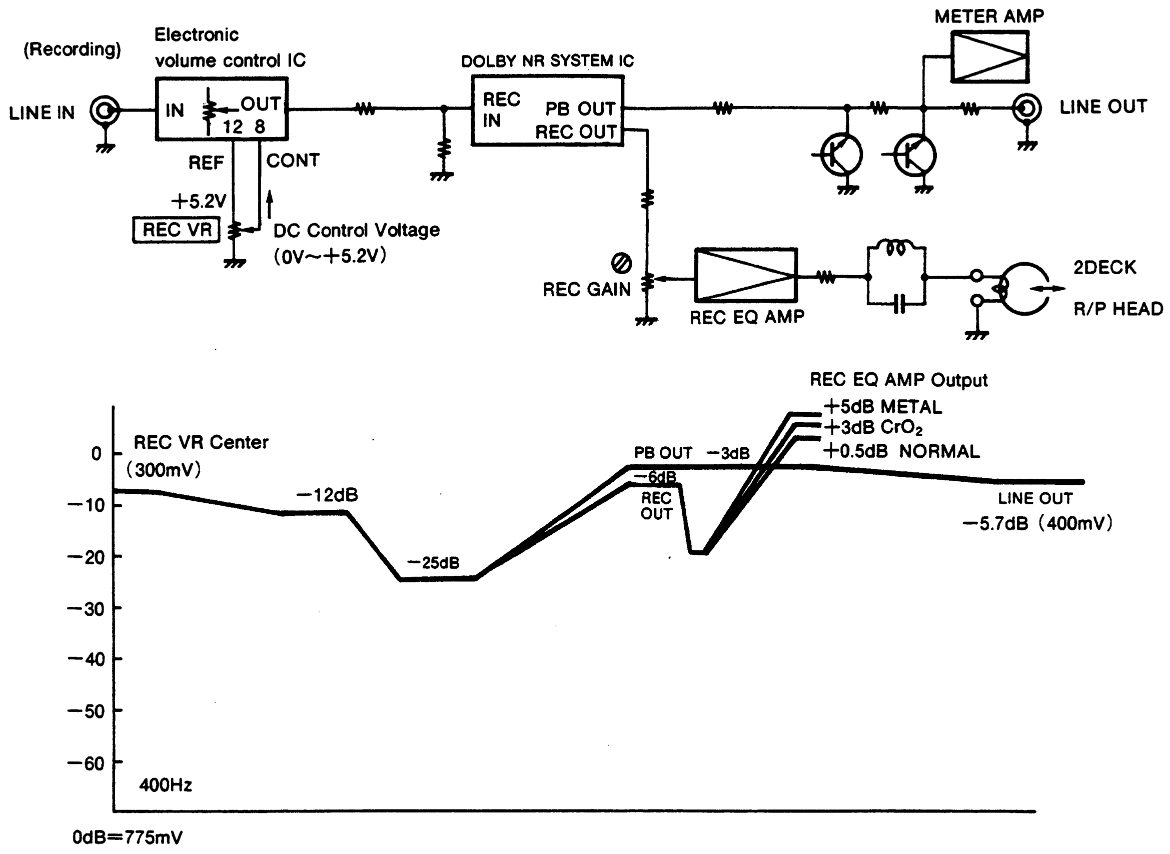
MAIN UNIT IU-2479-1

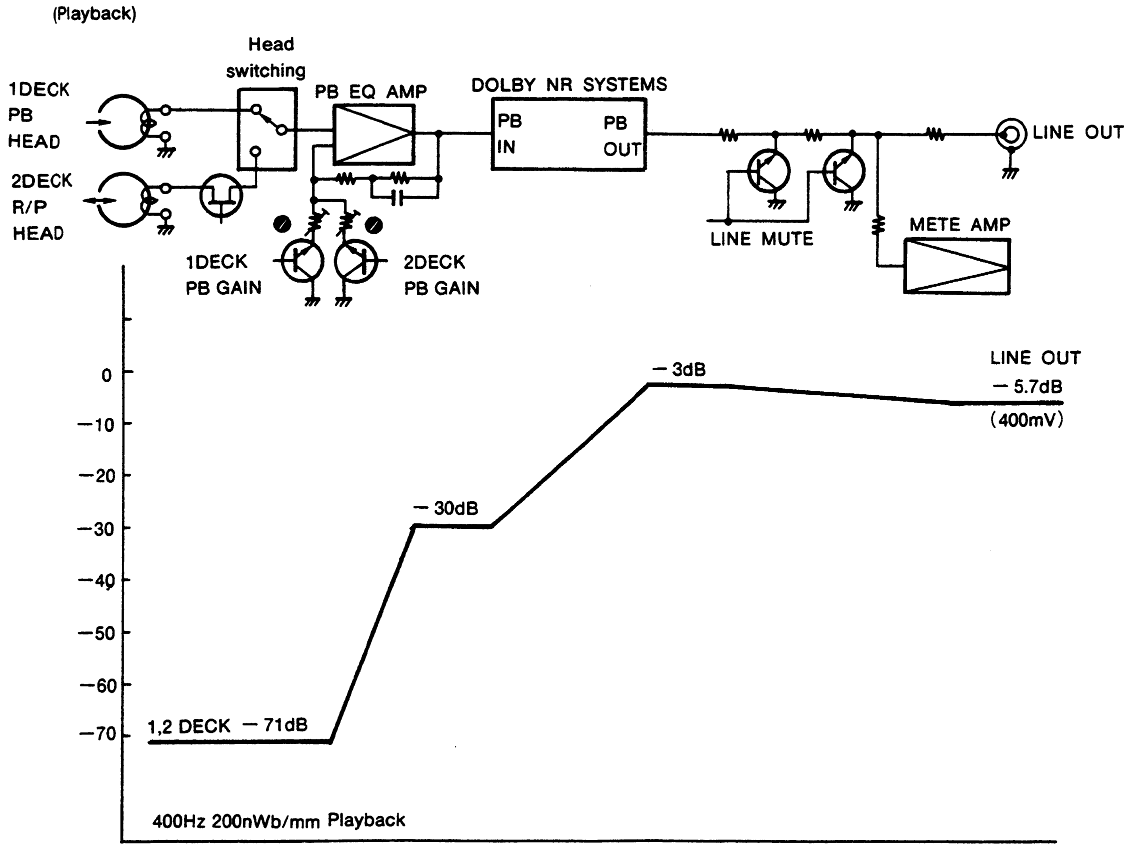
⑪ Remove the 5 screws which fasten the main unit and remove the board in the direction of the arrow.



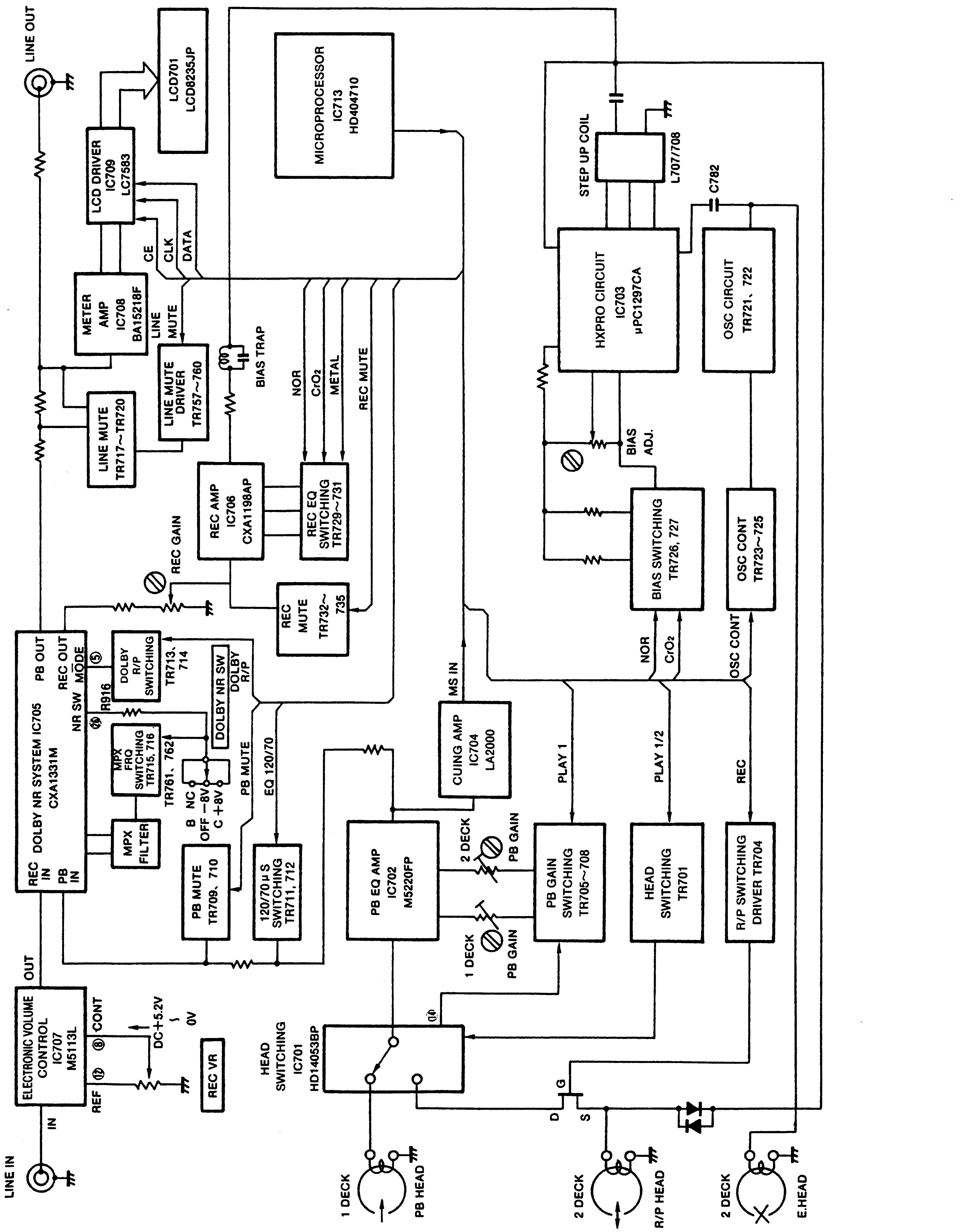
CASSETTE DECK SECTION

LEVEL DIAGRAM


(Recording)
Electronic volume control IC
LINE IN
IN
OUT
12 8
REF
CONT
+5.2V
REC VR
DC Control Voltage (0V~+5.2V)
DOLBY NR SYSTEM IC
REC IN
PB OUT
REC OUT
METER AMP
LINE OUT
REC GAIN
REC EQ AMP
2DECK R/P HEAD
REC EQ AMP Output
+5dB METAL
+3dB CrO2
+0.5dB NORMAL
REC VR Center (300mV)
0
−10
−20
−30
−40
−50
−60
−12dB
−25dB
PB OUT −3dB
−6dB
REC OUT
LINE OUT
−5.7dB (400mV)
400Hz
0dB=775mV


(Playback)
Head switching
1DECK PB HEAD
2DECK R/P HEAD
PB EQ AMP
DOLBY NR SYSTEMS
PB IN
PB OUT
LINE OUT
LINE MUTE
METE AMP
1DECK PB GAIN
2DECK PB GAIN
0
−10
−20
−30
−40
−50
−60
−70
1,2 DECK −71dB
−30dB
−3dB
LINE OUT
−5.7dB
(400mV)
400Hz 200nWb/mm Playback

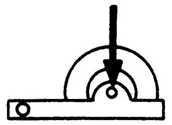
BLOCK DIAGRAM


LINE OUT
LINE IN
LCD701 LCD8235JP
MICROPROCESSOR IC713 HD404710
LCD DRIVER IC709 LC7583
CE
CLK
DATA
METER AMP IC708 BA15218F
LINE MUTE
LINE MUTE DRIVER TR757~760
LINE MUTE TR717~TR720
BIAS TRAP
NOR
CrO2
METAL
REC MUTE
STEP UP COIL
L707/708
C782
HXPRO CIRCUIT IC703 μPC1297CA
OSC CIRCUIT TR721, 722
BIAS ADJ.
REC AMP IC706 CXA1198AP
REC EQ SWITCHING TR729~731
REC GAIN
REC MUTE TR732~735
BIAS SWITCHING TR726, 727
OSC CONT TR723~725
DOLBY NR SYSTEM IC705 CXA1331M
PB OUT
REC OUT
MODE
NR SW
R916
REC IN
PB IN
DOLBY R/P SWITCHING TR713, 714
DOLBY NR SW
DOLBY R/P
MPX FRQ SWITCHING TR715, 716
TR761, 762
B OFF
NC −8V
C +8V
MPX FILTER
PB MUTE
EQ 120/70
PB MUTE TR709, 710
120/70μS SWITCHING TR711, 712
MS IN
CUING AMP IC704 LA2000
PLAY 1
PLAY 1/2
REC
NOR
CrO2
OSC CONT
PB EQ AMP IC702 M5220FP
2 DECK PB GAIN
1 DECK PB GAIN
PB GAIN SWITCHING TR705~708
HEAD SWITCHING TR701
R/P SWITCHING DRIVER TR704
OUT
ELECTRONIC VOLUME CONTROL IC707 M5113L
CONT
REF
IN
DC+5.2V ~ 0V
REC VR
HEAD SWITCHING IC701 HD14053BP
G
D
S
1 DECK PB HEAD
2 DECK R/P HEAD
2 DECK E.HEAD

ADJUSTMENTS

● Mechanism Measurements

Measurement item	Standard value	Remarks
Winding torque (PLAY)	35~70 gcm	SONY TW-2111 for forward, TW-2121 for reverse
Fast-forward and rewind torque	70~180 gcm	SONY TW-2231
Back tension torque	$2^{+2.3}_{-1.3}$ gcm	SONY TW-2111 for forward, TW-2121 for reverse
Pinch roller pressure	270 ± 50 g	See diagram at right
Fast-forward and rewind time	110 ± 15 s	C-60



With the deck in the play mode, apply force with the tension gauge in the direction of the arrow and read the value at which the pinch roller stops rotating.

● ELECTRICAL ADJUSTMENTS

● Preparations Before Adjustments

1. Measuring Instruments Necessary for Adjustments

- Screwdriver: Small flat-bladed screwdriver for variable resistors
- Low frequency oscillator
- Attenuator
- V.T.V.M.
- Oscilloscope
- Frequency counter
- Test tapes (TEAC MTT-111, MTT-114, MTT-150, DENON HDX/60, or equivalent)
- Load resister 47kohm 2pcs. (A-BEX, TC-111, TCC-153, TCC-130)

● Adjustment notes

① Before adjusting, wipe the surface of the heads, the capstans, and the pinch rollers with a piece of gauze moistened with alcohol.

② Demagnetize the playback, recording, and erasure heads with a head eraser.

③ Completely demagnetize the adjustment screwdriver.

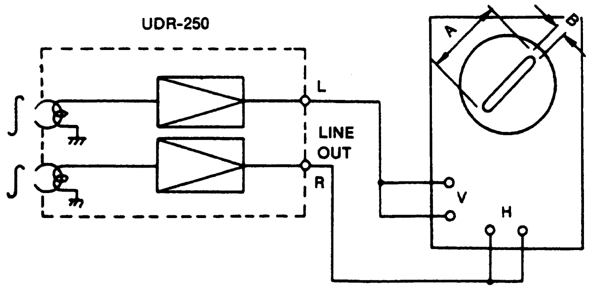
④ Unless otherwise specified, set the switches at the following positions and use the LINE IN Terminal IN jacks for the input.
DOBLY NR SW: OFF
REC VR: CENTER (Click position)

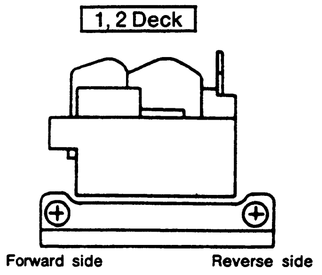
⑤ Be sure to connect a 47 load resistor to LINE OUT.

2. Playback adjustments

2-1 Azimuth adjustment

Play back the (TEAC MTT-114) test tape and turn the azimuth adjustment scrw to yield maximum values for the left and right channels. Lock the screw.





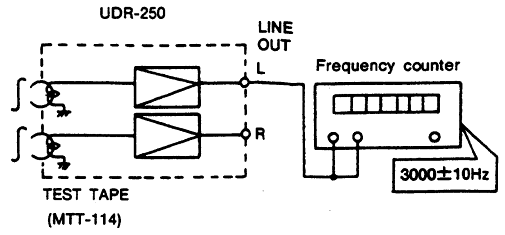
2-2 Tape speed check and adjustment

● **Connect the frequency counter to LINE OUT Terminal.**

① Play the test tape (MTT-111) on deck 2 and once tape transport has stabilized, adjust normal-speed-adjustment variable resistor (motor Variable Resistor) to yield 3,000 Hz ± 10 Hz.

② Using the same procedure on deck 1, adjust variable resistor (motor Variable Resistor).

NOTE: Use the central portion of the test tape; not the beginning or end of the winding.



2-3 Playback level check and adjustment

Play a Dolby reference level tape (TEAC MTT-150) and check that the voltage of the left and right monitor outputs of LINE OUT on the 1U-2479-3 deck board is within 400 mV ± 1 dB.

If it is not within this range, the playback level requires adjustment.

NOTE: When adjusting deck 1, the playback level of deck 2 also changes; therefore, the playback level of deck 2 should be readjusted.

- For deck 1, adjust: VR703 (Left channel), and VR704 (right channel)
- For deck 2, adjust: VR701 (Left channel), and VR702 (right channel)

Caution: Always adjust the playback level starting from the left deck first.

3. Recording adjustments (deck 2 only)

3-1 Overall frequency response adjustment for recording and playback

Load a blank DENON HDX/60 tape for adjustment purposes and record and play it back, adjusting the input attenuators of the 1 kHz and 10 kHz signals to yield a left and right monitor output voltage of 40 mVat LINE OUT of the 1U-2479-3 deck board. Adjust so that the 10 kHz level is about+0.5 dB with respect to 1 kHz, and the overall response is within the range shown in the diagram below.

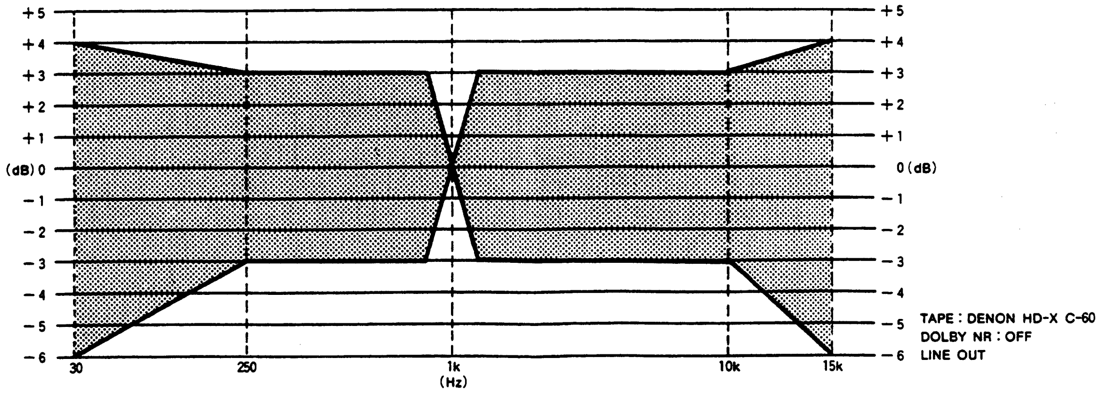
- If the 10 kHz output is larger than the 1 kHz output, turn VR707 (left channel) and VR708 (right channel) counterclockwise, and if it is smaller, turn these controls clockwise.

3-2 Recording level check and adjustment

Load a blank DENON HDX/60 tape for adjustment purposes and check that the voltmeter indication is within the 40 mV ± 1 dB range when a 1 kHz signal is recorded and played back.

If it is not within this range, the recording level requires adjustment.

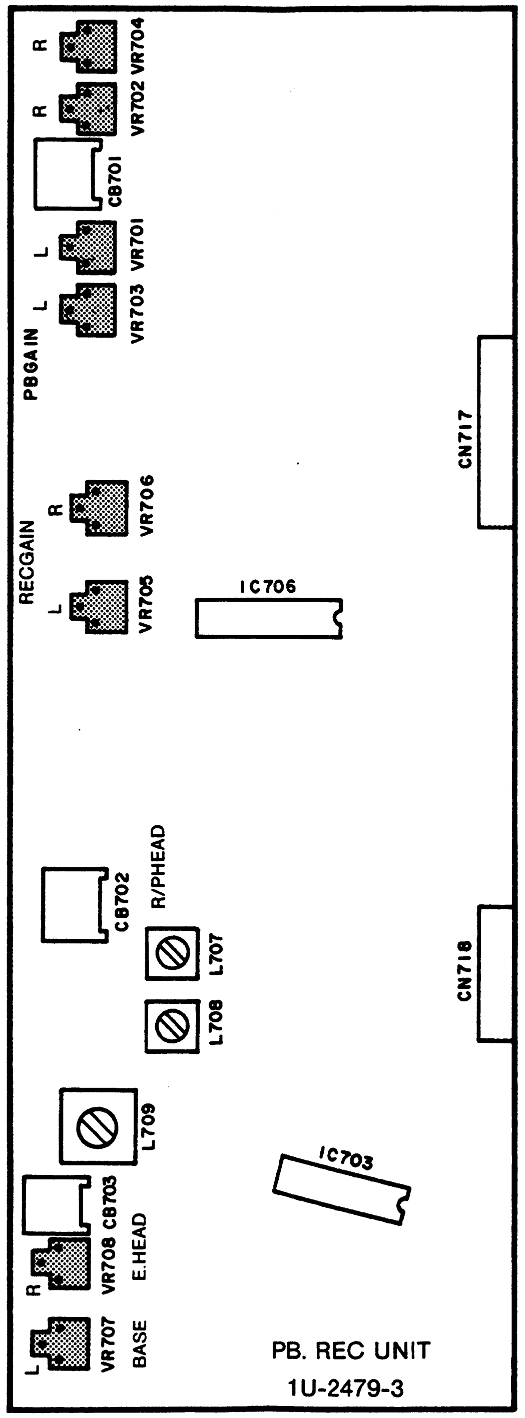
- If the level at the time of playing back the recording is higher than at the time of recording, turn VR705 (left channel) and VR706 (right channel) counterclockwise, and if lower, turn these controls clockwise.



CASSETTE DECK SECTION

OUTLINE DIAGRAM OF ADJUSTMENT LOCATIONS

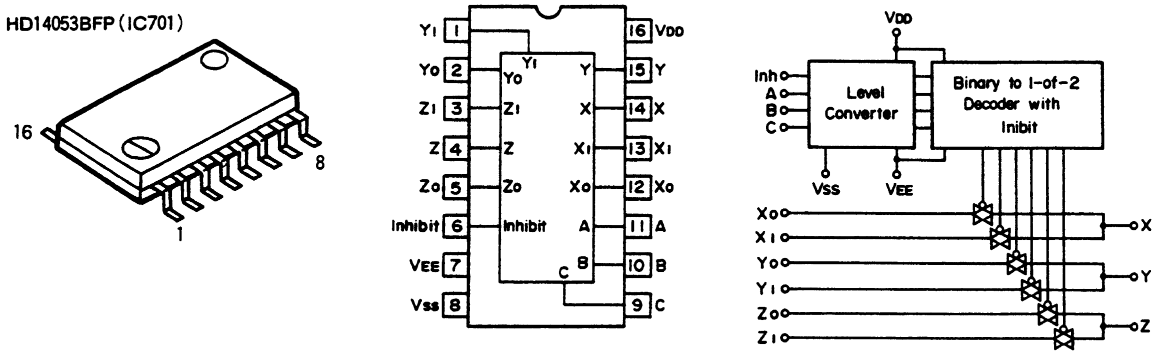
1U-2479-3 PB, REC UNIT ASS'Y (Component Side)


R
VR704
R
VR702
CB701
L
VR701
L
VR703
PBGAIN
CN717
R
VR706
RECGAIN
L
VR705
IC706
CB702
R/PHEAD
L707
L708
CN718
L709
IC703
CB703
R
VR708
E.HEAD
L
VR707
BASE
PB. REC UNIT
1U-2479-3

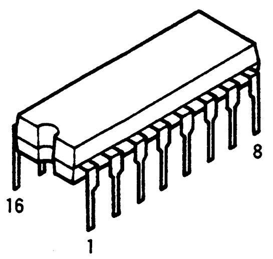
SEMICONDUCTORS

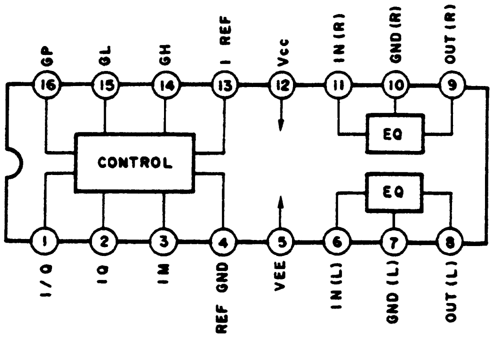
● IC

HD14053BFP (IC701)

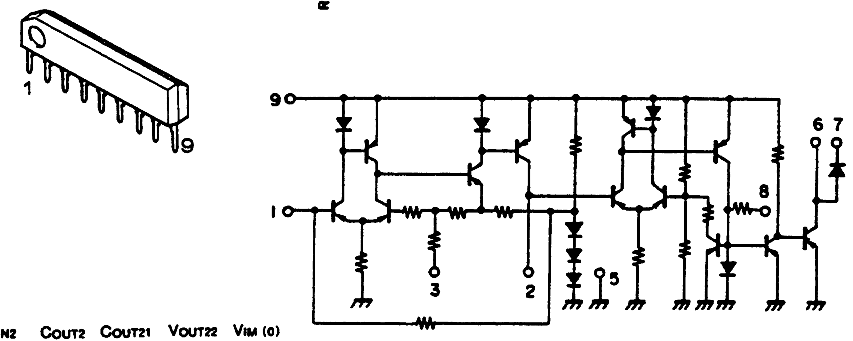

16
8
1
Y1 1
Y0 2
Z1 3
Z 4
Z0 5
Inhibit 6
VEE 7
Vss 8
16 VDD
15 Y
14 X
13 X1
12 X0
11 A
10 B
9 C
Y1
Y0
Z1
Z
Z0
Inhibit
Y
X
X1
X0
A
B
C
VDD
Inh
A
B
C
Level Converter
Binary to 1-of-2 Decoder with Inibit
VSS
VEE
X0
X1
Y0
Y1
Z0
Z1
X
Y
Z

CXA1198AP (IC706)

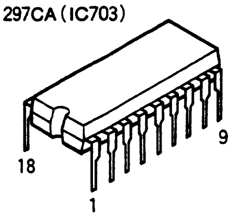


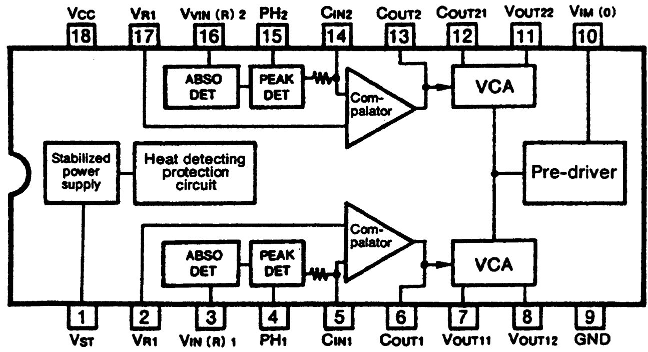

GP 16
GL 15
GH 14
I REF 13
Vcc 12
IN (R) 11
GND (R) 10
OUT (R) 9
CONTROL
EQ
EQ
1 I/O
2 IQ
3 IM
4 REF GND
5 VEE
6 IN (L)
7 GND (L)
8 OUT (L)

LA2000 (IC704)

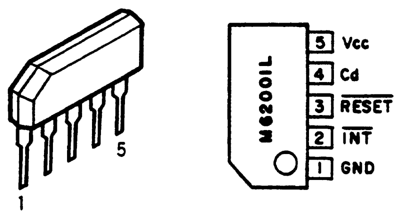

1
9
9
6 7
1
8
3
2
5

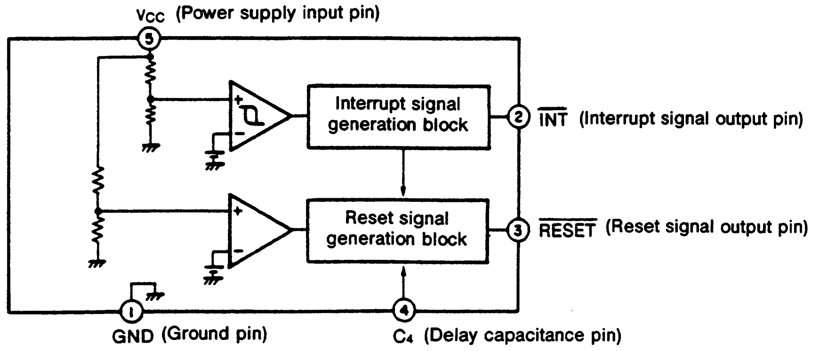
µ PC1297CA (IC703)




Vcc 18
VR1 17
VVIN (R) 2 16
PH2 15
CIN2 14
COUT2 13
COUT21 12
VOUT22 11
VIM (0) 10
ABSO DET
PEAK DET
Com-palator
VCA
Stabilized power supply
Heat detecting protection circuit
Pre-driver
ABSO DET
PEAK DET
Com-palator
VCA
1 VST
2 VR1
3 VIN (R) 1
4 PH1
5 CIN1
6 COUT1
7 VOUT11
8 VOUT12
9 GND

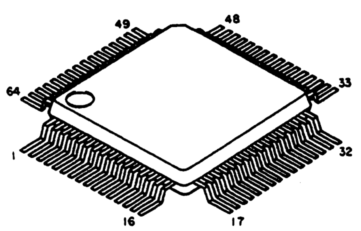
M62005L (IC712)


1
5
M62005L
5 Vcc
4 Cd
3 RESET
2 INT
1 GND

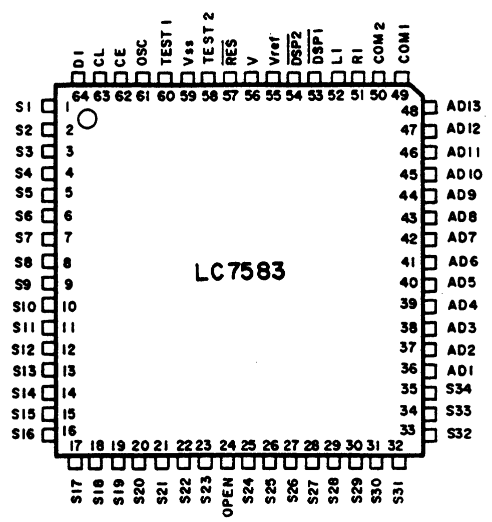

Vcc (Power supply input pin)
5
Interrupt signal generation block
2 INT (Interrupt signal output pin)
Reset signal generation block
3 RESET (Reset signal output pin)
1
GND (Ground pin)
4
C4 (Delay capacitance pin)

CASSETTE DECK SECTION

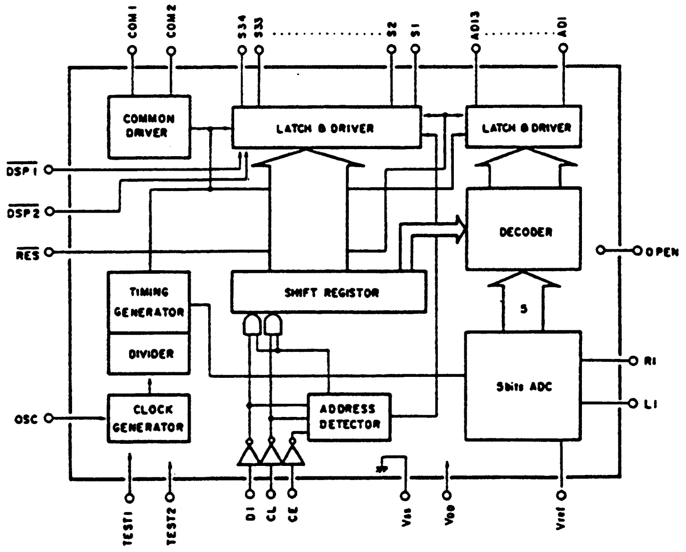
LC7583 (IC709)
LCD driver with level meter



49
48
64
33
1
32
16
17



LC7583
DI CL CE OSC TEST1 Vss TEST2 RES V Vref DSP2 DSP1 L1 R1 COM2 COM1
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16
AD13 AD12 AD11 AD10 AD9 AD8 AD7 AD6 AD5 AD4 AD3 AD2 AD1 S34 S33 S32
S17 S18 S19 S20 S21 S22 S23 OPEN S24 S25 S26 S27 S28 S29 S30 S31

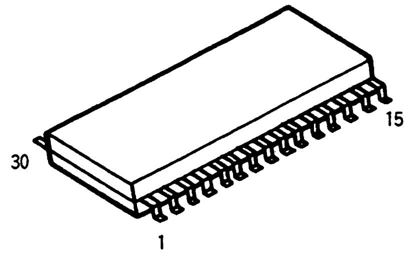


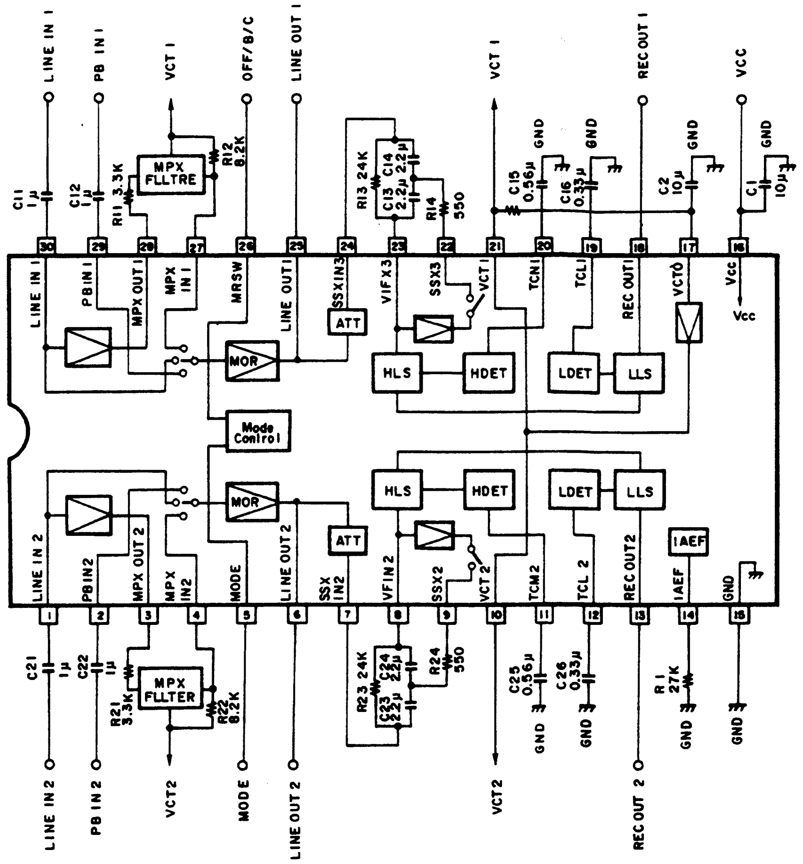
COM1
COM2
S34
S33
S2
S1
AD13
AD1
COMMON DRIVER
LATCH & DRIVER
LATCH & DRIVER
DSP1
DSP2
RES
DECODER
OPEN
TIMING GENERATOR
SHIFT REGISTOR
DIVIDER
5
8bits ADC
R1
L1
CLOCK GENERATOR
ADDRESS DETECTOR
OSC
TEST1
TEST2
DI
CL
CE
Vss
VDD
Vref

Pin Description

Pin	Pin No.	Description	Active	I/O
S1～S33	1～34	Segment outputs which display the data transferred from the serial data.	–	O
S34	35	Segment output which displays the external input ($\overline{DSP1}$, $\overline{DSP2}$) information.	–	O
AD1～AD13	36～48	Segment outputs which display the ADC input (R1, L1) information. Three kinds of patterns are output depending on the control bits "A1", and "A2". AD1 is the minimum lighting level, and AD13 is the maximum lighting level.	–	O
COM1 COM2	49 50	With the common driver output, the frame frequency is $\frac{fosc}{512}$ Hz.	–	O
R1 L1	51 52	AD converter input pins.	Analog	I
$\overline{DSP1}$ $\overline{DSP2}$	53 54	These are input pins for the direct (external input) display, and their segment output is output from S34.	L	I
Vref	55	Reference power supply pin of the AD converter.	–	–
V_{DD} Vss	56 59	Power supply pins.	–	–
$\overline{RES}$	57	This pin forcefully switches off the display in the initial condition.	L	I
TEST2	58	To be used in the open condition.	–	O
TEST1	60	To be used open or with Vss.	–	I
CE	62	Pins for serial data transfer. Connected with the controller. (microprocessor). CE: Chip enable CL: Sync clock DI: Transfer data	H	I
CL	63		|	
DI	64		–	
OPEN	24	No connection.	–	–

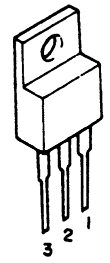
CXA1331M (IC705)





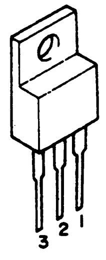
LINE IN 1
PB IN 1
VCT 1
OFF/B/C
LINE OUT 1
VCT 1
REC OUT 1
VCC
C11 1μ
C12 1μ
R11 3.3K
MPX FLLTRE
R12 8.2K
R13 24K
C13 2.2μ
C14 2.2μ
R14 550
C15 0.56μ
C16 0.33μ
C2 10μ
C1 10μ
GND
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16
LINE IN 1
PBIN 1
MPX OUT 1
MPX IN 1
MRSW
LINE OUT 1
SSXIN3
VIFX3
SSX3
VCT 1
TCN1
TCL1
REC OUT 1
VCT0
Vcc
Vcc
ATT
MOR
HLS
HDET
LDET
LLS
Mode Control
MOR
HLS
HDET
LDET
LLS
ATT
IAEF
LINE IN 2
PBIN2
MPX OUT 2
MPX IN2
MODE
LINE OUT 2
SSX IN2
VFIN 2
SSX2
VCT 2
TCM2
TCL 2
REC OUT2
IAEF
GND
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
C21 1μ
C22 1μ
R21 3.3K
MPX FLLTER
R22 8.2K
R23 24K
C23 2.2μ
C24 2.2μ
R24 550
C25 0.56μ
C26 0.33μ
R1 27K
GND
LINE IN 2
PB IN 2
VCT2
MODE
LINE OUT 2
VCT2
REC OUT 2

NJM78M06FA (S) (IC715)
NJM78M08FA (S) (IC716)
NJM78M12FA (S) (IC714)
(Three-terminal positive
constant voltage power supply



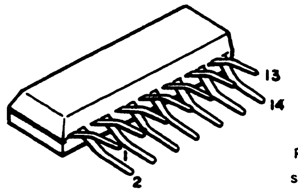
1 : Output
2 : GND
3 : Input

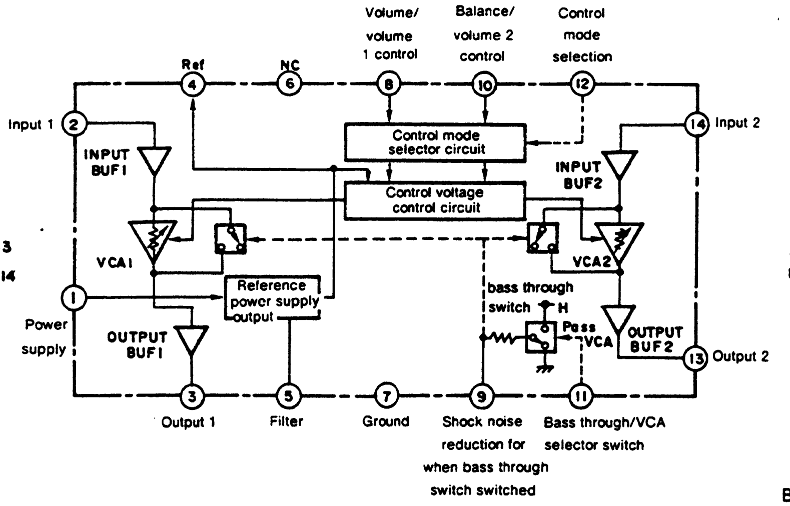
NJM79M08FA (IC717)
(Three-terminal negative
constant voltage power supply)



1 : Output
2 : Input
3 : GND

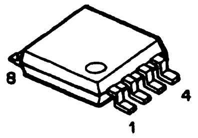
M51131L (IC707)

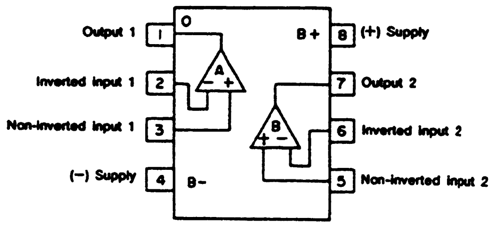




Volume/ volume 1 control
Balance/ volume 2 control
Control mode selection
Ref
NC
4
6
8
10
12
Input 1
2
Input 2
14
INPUT BUF1
Control mode selector circuit
INPUT BUF2
Control voltage control circuit
VCA1
VCA2
Reference power supply output
bass through switch
H
Pass
VCA
1
Power supply
OUTPUT BUF1
OUTPUT BUF2
13
Output 2
3
5
7
9
11
Output 1
Filter
Ground
Shock noise reduction for when bass through switch switched
Bass through/VCA selector switch

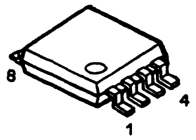
M5220FP (IC702)

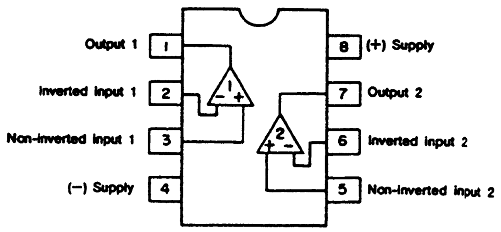




Output 1
1
Inverted input 1
2
Non-inverted input 1
3
(−) Supply
4
B−
B+
8
(+) Supply
7
Output 2
6
Inverted input 2
5
Non-inverted input 2
A
B

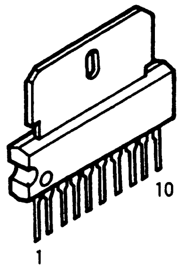
BA15218F (IC708)

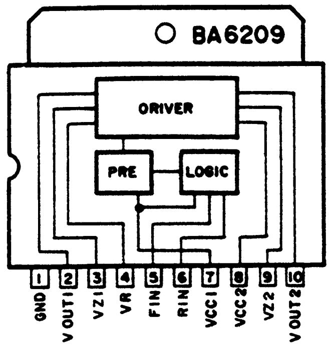




Output 1
1
Inverted input 1
2
Non-inverted input 1
3
(−) Supply
4
8
(+) Supply
7
Output 2
6
Inverted input 2
5
Non-inverted input 2
1
2

BA6209 (IC710, 711)
Reversible motor driver
(2 circuits built in)



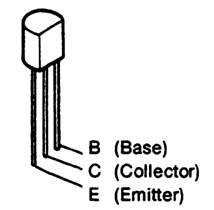


BA6209
DRIVER
PRE
LOGIC
1 2 3 4 5 6 7 8 9 10
GND
V OUT1
VZ1
VR
FIN
RIN
VCC1
VCC2
VZ2
V OUT2

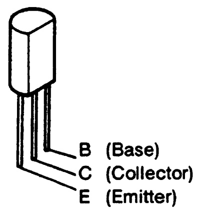
CASSETTE DECK SECTION

● Transistors

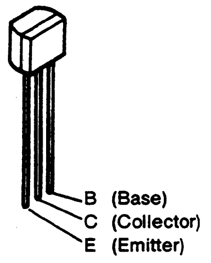
2SD1111
2SA933S (S)


B (Base)
C (Collector)
E (Emitter)

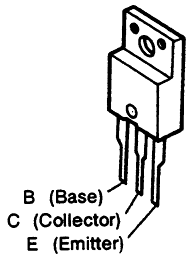
2SB562 (C)


B (Base)
C (Collector)
E (Emitter)

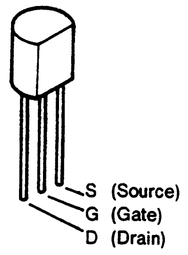
2SC1740S

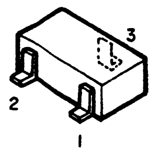

B (Base)
C (Collector)
E (Emitter)

2SC3852


B (Base)
C (Collector)
E (Emitter)

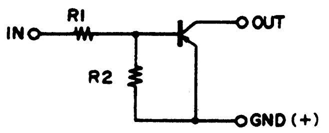
2SK373 (Y) (FET)

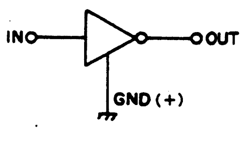

S (Source)
G (Gate)
D (Drain)



1 : GND / Emitter
2 : In / Base
3 : Out / Collector

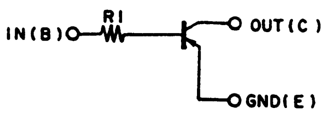
DTAEK Series


IN
R1
R2
OUT
GND (+)



	R1	R2
DTA114EK	10k ohm	10k ohm

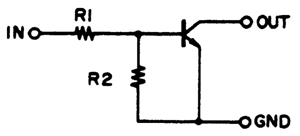
DTCTK Series

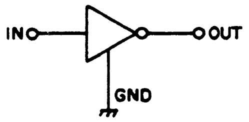

IN (B)
R1
OUT (C)
GND (E)

	R1
DTC114TK	10k ohm
DTC323TK	2.2k ohm

DTA114EK
DTC114EK
DTC124EK
DTC144EK
DTC114TK
DTC323TK

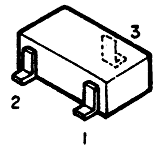
DTCEK Series


IN
R1
R2
OUT
GND



	R1	R2
DTC114EK	10k ohm	10k ohm
DTC124EK	22k ohm	22k ohm
DTC144EK	47k ohm	47k ohm

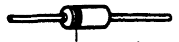
2SC2412K (S)



1 : GND / Emitter
2 : In / Base
3 : Out / Collector

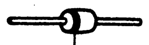
● Diodes (including LED)

HZS3A-1
HZS4A-1
HZS6A-1
HZS6C-1
HZS7C-1
HZS9B-1
HZS12A-1



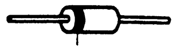
Navy Blue →|

1SS270A



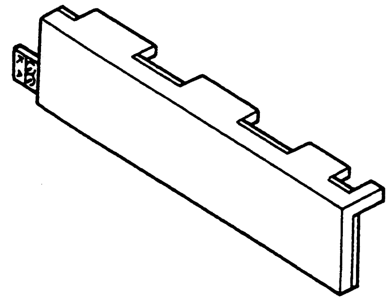
Navy Blue →|

1SR35-200A

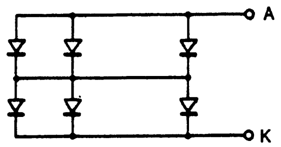


Blue →|

LED (SLF-351D)
Part No. 3939470009



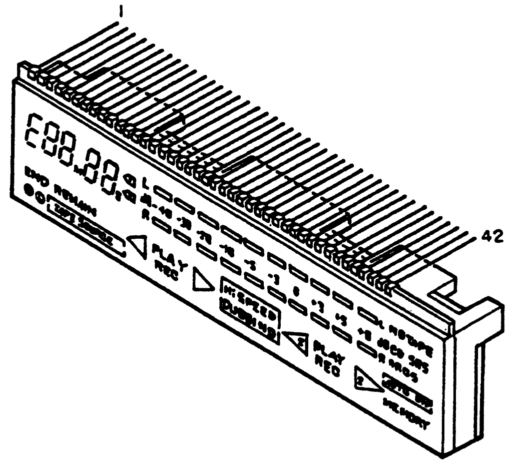
● Connection

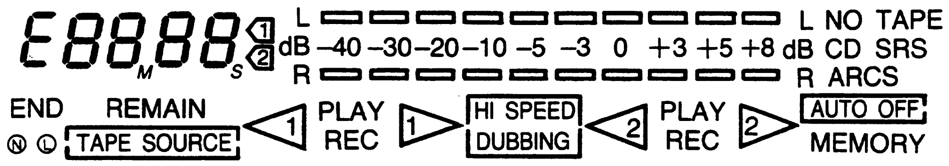


2 Series 22 Para = 44 Chip

● LCD ASS'Y (8235JP)

Part No. 3934143001




L
dB -40 -30 -20 -10 -5 -3 0 +3 +5 +8 dB
R
L NO TAPE
CD SRS
R ARCS
M
S
1
2
END
REMAIN
Ⓝ Ⓛ
TAPE SOURCE
1 PLAY REC 1
HI SPEED DUBBING
2 PLAY REC 2
AUTO OFF
MEMORY

NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
COM1	COM	—	REC 2)	◁2	HI SPEED	REC 1)	◁1	SOURCE	Ⓝ	END	TAPE SOURCE	g	1e	1a
COM2	—	COM	2▷	PLAY 2)	DUBBING	1▷	PLAY 1)	TAPE	Ⓛ	REMAIN	[	M. S	1d	1f

NO.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
COM1	1b	1c	2f	2a	2c	3e	3a	3b	3c	4f	4a	4c	◁1	L DB R (A)
COM2	1g	2e	2g	2b	2d	3d	3f	3g	4e	4g	4b	4d	◁2	-40 -30

NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
COM1	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	♯1	NO TAPE	MEMORY	OFF
COM2	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	L DB R (A)	CD SRS	ARCS	AUTO

MICROPROCESSOR DOCUMENTATION

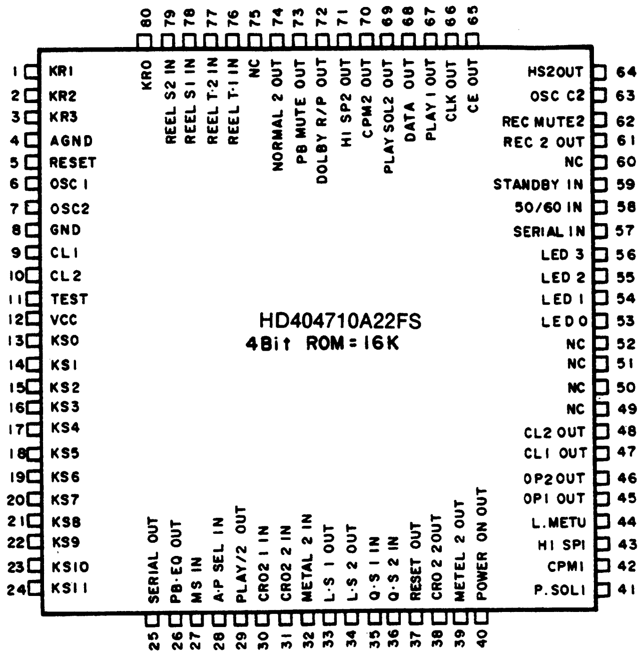
● Control Circuits for the Deck

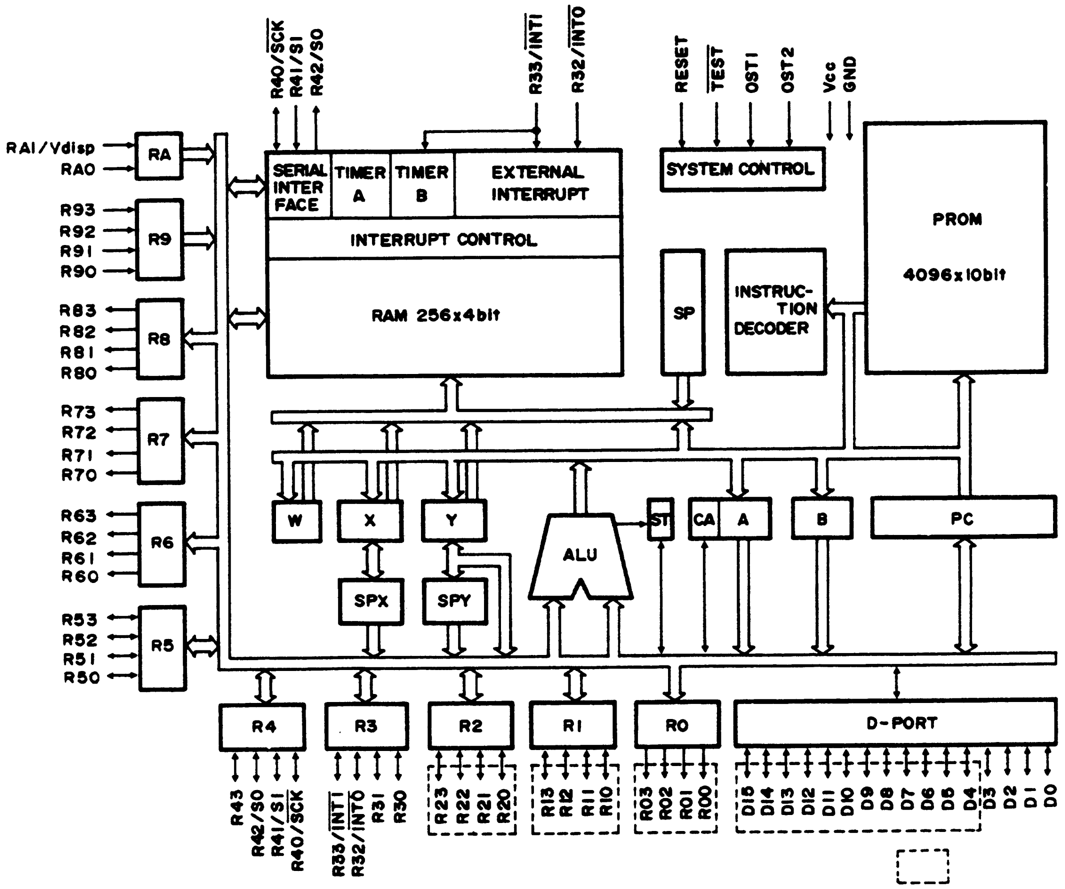
HD404710A22FS: 2621626104 (IC713)

(CMOS 4-bit single-chip microprocessor)

- **Main Functions**
  - **Deck Control**

1. Control output for deck mechanism control and signal circuits
2. Twin reverse: playback · recording
3. Cuing operation, continuous play
4. Regular speed tape copying
5. CD syncro operation
6. Edit operation
7. Auto function operation
8. Real time counter
9. Auto power on/off operation
10. Tape end indication
11. LCD display control


HD404710A22FS
4Bit ROM=16K
1 KR1
2 KR2
3 KR3
4 AGND
5 RESET
6 OSC 1
7 OSC2
8 GND
9 CL1
10 CL2
11 TEST
12 VCC
13 KS0
14 KS1
15 KS2
16 KS3
17 KS4
18 KS5
19 KS6
20 KS7
21 KS8
22 KS9
23 KS10
24 KS11
25 SERIAL OUT
26 PB-EQ OUT
27 MS IN
28 AP SEL IN
29 PLAY/2 OUT
30 CRO2 1 IN
31 CRO2 2 IN
32 METAL 2 IN
33 L·S 1 OUT
34 L·S 2 OUT
35 Q·S 1 IN
36 Q·S 2 IN
37 RESET OUT
38 CRO 2 2OUT
39 METEL 2 OUT
40 POWER ON OUT
41 P.SOL1
42 CPM1
43 HI SP1
44 L.METU
45 OP1 OUT
46 OP2OUT
47 CL1 OUT
48 CL2 OUT
49 NC
50 NC
51 NC
52 NC
53 LED0
54 LED 1
55 LED 2
56 LED 3
57 SERIAL IN
58 50/60 IN
59 STANDBY IN
60 NC
61 REC 2 OUT
62 REC MUTE2
63 OSC C2
64 HS2OUT
65 CE OUT
66 CLK OUT
67 PLAY 1 OUT
68 DATA OUT
69 PLAYSOL2 OUT
70 CPM2 OUT
71 HI SP2 OUT
72 DOLBY R/P OUT
73 PB MUTE OUT
74 NORMAL 2 OUT
75 NC
76 REEL T·1 IN
77 REEL T·2 IN
78 REEL S1 IN
79 REEL S2 IN
80 KR0


R40/SCK
R41/SI
R42/SO
R33/INT1
R32/INT0
RESET
TEST
OST1
OST2
Vcc
GND
RA1/Vdisp
RA0
RA
R93
R92
R91
R90
R9
R83
R82
R81
R80
R8
R73
R72
R71
R70
R7
R63
R62
R61
R60
R6
R53
R52
R51
R50
R5
SERIAL INTER FACE
TIMER A
TIMER B
EXTERNAL INTERRUPT
INTERRUPT CONTROL
RAM 256x4bit
SYSTEM CONTROL
SP
INSTRUC-TION DECODER
PROM 4096x10bit
W
X
Y
SPX
SPY
ALU
ST
CA
A
B
PC
R4
R3
R2
R1
R0
D-PORT
R43
R42/SO
R41/SI
R40/SCK
R33/INT1
R32/INT0
R31
R30
R23
R22
R21
R20
R13
R12
R11
R10
R03
R02
R01
R00
D15
D14
D13
D12
D11
D10
D9
D8
D7
D6
D5
D4
D3
D2
D1
D0

● **Pin Description**

Pin No.	Pin Name	Function Name	Function
1	RD1/AN5	KR 1	Key return 1 input
2	RD2/AN6	KR 2	Key return 2 input
3	RD3/AN7	KR 3	Key return 3 input
4	AGND		Ground (In)
5	RESET	RESET	Reset input
6	OSC1		4 MHz Cell lock
7	OSC2		4 MHz Cell lock
8	GND		Ground
9	CL1	NC	Ground (In)
10	CL2	NC	Open
11	TEST	NC	5 V
12	VCC		5 V
13	D 0	KS 0	Key strobe 0 output
14	D 1	KS 1	Key strobe 1 output
15	D 2	KS 2	Key strobe 2 output
16	D 3	KS 3	Key strobe 3 output
17	D 4	KS 4	Key strobe 4 output
18	D 5	KS 5	Key strobe 5 output
19	D 6	KS 6	Key strobe 6 output
20	D 7	KS 7	Key strobe 7 output
21	D 8	KS 8	Key strobe 8 output
22	D 9	KS 9	Key strobe 9 output
23	D10	KS10	Key strobe 10 output
24	D11	KS11	Key strobe 11 output
25	D12	SERIAL OUT	Serial communications output
26	D13	PB.EQ OUT	Playback equalizer switching output 120 = L、70 = H
27	D14	MS IN	Inter track detection signal input (Active = L)
28	D15	A.P. SEL IN	Auto power on/off switching High = Auto power on/off is performed Low = Auto power on/off is not performed
29	R00	PLAY 1/2 OUT	Output which indicates the play condition of the mechanisms Mechanism 1 playing = L Mechanism 2 playing = H
30	R01	CROM 1 IN	Mechanism 1 tape type detection input
31	R02	CROM 2 IN	Mechanism 2 tape type detection input
32	R03	METAL 2 IN	Mechanism 2 tape type detection input
33	R10	L.SPEED 1 OUT	Loading speed control output
34	R11	L.SPEED 2 OUT	Loading speed control output
35	R12	Q.SENSE 1 IN	Quick sense input of tape 1 (Active = L)
36	R13	Q.SENSE 2 IN	Quick sense input of tape 2 (Active = L)
37	R20	RESET OUT	Control output for 4 seconds following reset
38	R21	CROM 2 OUT	Output which switches the recording equalization of tape 2 to chrome
39	R22	METAL 2 OUT	Output which switches the recording equalization of tape 2 to metal
40	R23	POWER ON OUT	Power on/off control output On = High Off = Low

CASSETTE DECK SECTION

Pin No.	Pin Name	Function Name	Function
41	R30	PLAY SOL1 OUT	Output which drives the solenoid of mechanism 1
42	R31	CPM 1 OUT	Output which drives the capstan motor of mechanism 1
43	R32	HI-SP 1 OUT	Switches the speed of the capstan motor of mechanism 1 at the time of high-speed tape copying
44	R33	LINE MUTE OUT	Playback output muting pin
45	R40	OPEN 1 OUT	Output for opening the loader of mechanism 1
46	R41	OPEN 2 OUT	Output for closing the loader of mechanism 2
47	R42	CLOSE 1 OUT	Output for opening the loader of mechanism 1
48	R43	CLOSE 2 OUT	Output for closing the loader of mechanism 2
49	R50/Vdisp	NC	Ground (In)
50	R51	NC	Ground (In)
51	R52	NC	Ground (In)
52	R53	NC	Ground (In)
53	R60/COMP	LED0	Output pin for mode display drive (Active = L)
54	R61/Vref	LED1	Output pin for mode display drive (Active = L)
55	R62/TOE1	LED2	Output pin for mode display drive (Active = L)
56	R63/TOE2	LED3	Output pin for mode display drive (Active = L)
57	R70/INT0	SERIAL IN	Serial communications input
58	R71/INT1	50/60 IN	50 Hz/60 Hz pulse input
59	R72/INT2	STANDBY IN	Input which sets the microcomputer to the standby mode
60	R73/INT3	NC	Ground (In)
61	R80/INT4	REC 2 OUT	Tape 2 record mode output
62	R81/INT5	REC MUTE 2 OUT	Tape 2 recording amplifier muting output
63	R82/SO1	OSC CONT2 OUT	Tape 2 bias oscillator control output
64	R83/SI1	HI-SP REC2 OUT	Time constant switching output at the time of high-speed tape copying
65	R90/SCK1	LCDCE OUT	LCD CE output
66	R91/SCK2	LCDCLK OUT	LCD clock output
67	R92/SI2	PLAY 1 OUT	Play 1 output
68	R93/SO2	LCDDATA OUT	LCD data output
69	RA0/ICT0	PLAY SOL2 OUT	Output which drives the solenoid of mechanism 2
70	RA1/ICT2	CPM2 OUT	Output which drives the capstan motor of mechanism 2
71	RA2/TOG	HI-SP 2 OUT	Switches the speed of the capstan motor of mechanism 2 at the time of high-speed tape copying
72	RA3/BUZZ	DOLBY R/P OUT	Dolby record/playback switching output
73	RB0/TOC	PB MUTE OUT	Playback equalizer muting output
74	RB1/TOG	NORMAL 2 OUT	Normal 2 output
75	AVCC	NC	5 V
76	RC0/AN0	REEL.T.1 IN	Reel pulse take-up 1 input
77	RC1/AN1	REEL.T.2 IN	Reel pulse take-up 2 input
78	RC2/AN2	REEL.S.1 IN	Reel pulse supply 1 input
79	RC3/AN3	REEL.S.2 IN	Reel pulse supply 2 input
80	RD0/AN4	KR0	Key return 0 input

● Button Input Description

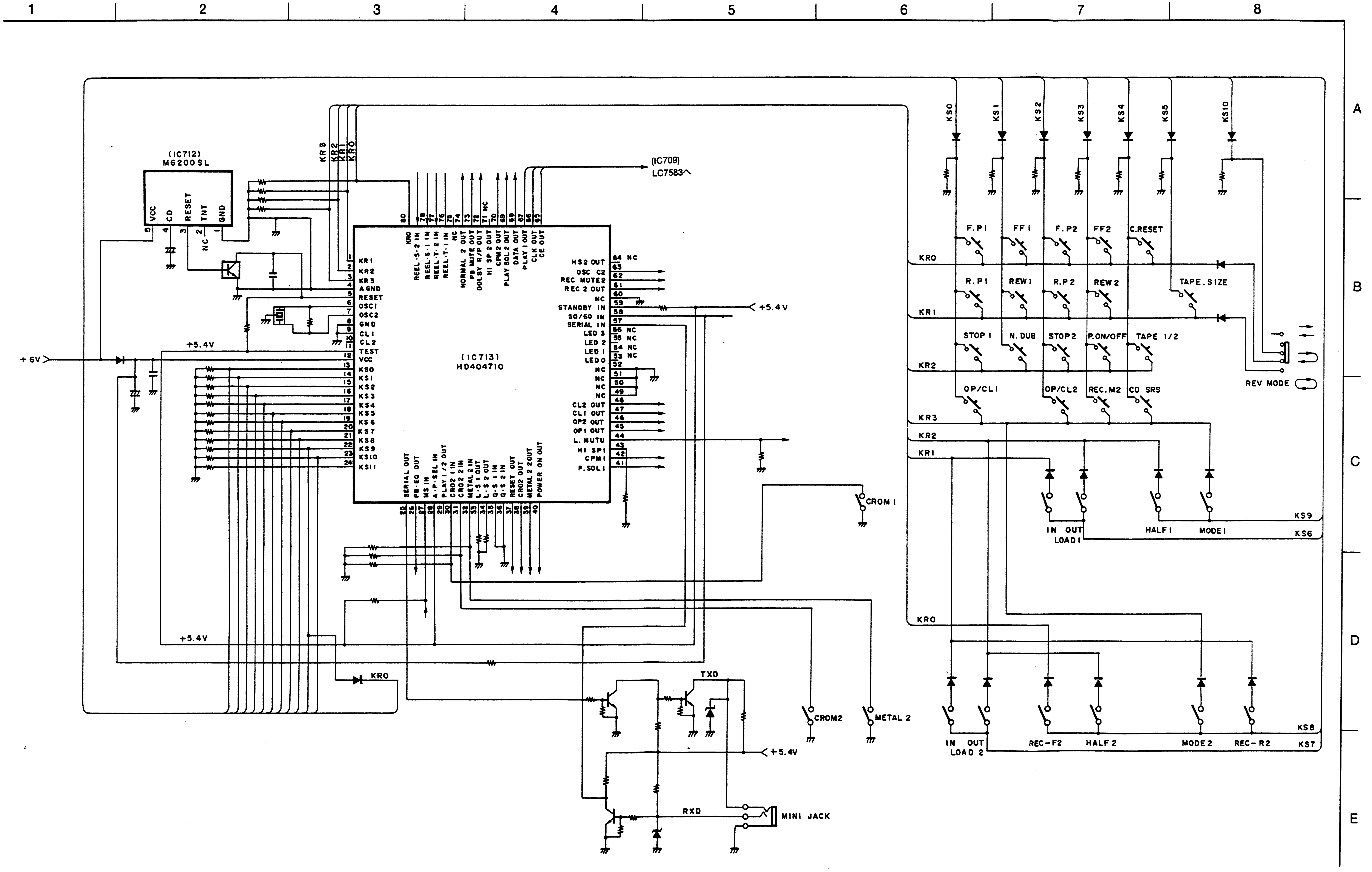
Item	Button Name	Description of Function
1	F. PLAY	Commands the forward direction play mode. Commands the cue/revue mode with one-touch play operations of PLAY + REW/FF, or FF/REW during the play mode.
2	R. PLAY	Commands the play mode of the reverse direction. The one-touch play operations of the cue/revue mode are the same as with F. PLAY.
3	F. F	Commands the tape to be wound quickly in the right direction.
4	REW	Commands the tape to be wound quickly in the left direction.
5	STOP	Commands the stop mode. When there has been input from this button, there will be a change to the stop mode from whichever mode is currently set.
6	OPEN/CLOSE	Commands the open/close mode of the cassette tray. The open/close mode is switched cyclicly with the input of this button. This is a toggle operation. When there is input from this button with the power off, the power is switched on and there is then a shift to the open mode.
7	F. PLAY	Commands the forward direction play mode. Commands the cue/revue mode with one-touch play operations of PLAY + REW/FF, or FF/REW during the play mode.
8	R. PLAY	Commands the play mode of the reverse direction. The one-touch play operations of the cue/revue mode are the same as with F. PLAY.
9	F. F	Commands the tape to be wound quickly in the right direction.
10	REW	Commands the tape to be wound quickly in the left direction.
11	STOP	Commands the stop mode. When there has been input from this button, there will be a change to the stop mode from whichever mode is currently set.
12	OPEN/CLOSE	Commands the open/close mode of the cassette tray. The open/close mode is switched cyclicly with the input of this button. This is a toggle operation. When there is input from this button with the power off, the power is switched on and there is then a shift to the open mode.
13	REC/REC MUTE	Commands the record, record pause, and record muting modes. When there is button input in the stop mode, there will be a shift to the record pause mode. When there is button input in the record pause mode, there will be a shift to the record mute mode. When switched on simultaneously with PLAY, or when there is PLAY button input in the record pause mode, there will be a shift to the record mode. The conditions of the record mode must be satisfied.
14	COUNTER RESET	Resets the counter to "0000".
15	COUNTER 1/2	This key selects the counter display for either deck 1 or deck 2.
16	TAPE SIZE	Inputs the time of the tape length. Toggle operation.
17	POWER	Commands the power on/off mode of the set.
18	DUBBING	Records from deck 1 to deck 2.
19	CD SRS	Commands the CD SRS operation.

● Description of Switch Inputs

Item	Switch Name	Description of Function
1	REVERSE	Commands the one side or two side recording/playback modes and the endless playback mode.
2	DOLBY NR	Commands Dolby (B/C) on/off.

MICROPROCESSOR PERIPHERAL WIRING DIAGRAM

CASSETTE DECK SECTION

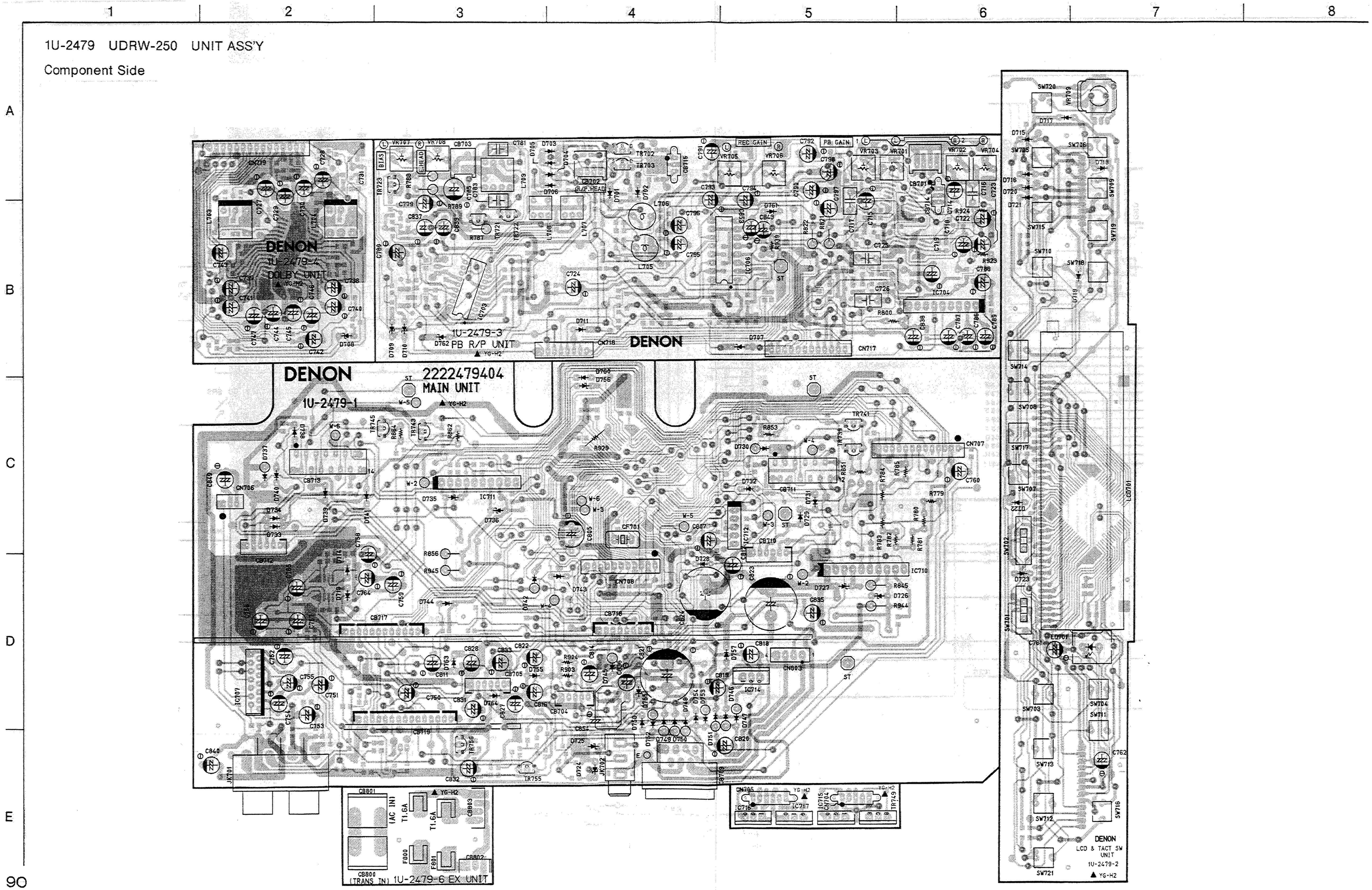

1
2
3
4
5
6
7
8
A
B
C
D
E
(IC712)
M6200SL
VCC
CD
RESET
TNT
GND
5
4
3
2
1
NC
KR3
KR2
KR1
KR0
(IC709)
LC7583へ
(IC713)
HD404710
1 KR1
2 KR2
3 KR3
4 AGND
5 RESET
6 OSC1
7 OSC2
8 GND
9 CL1
10 CL2
11 TEST
12 VCC
13 KS0
14 KS1
15 KS2
16 KS3
17 KS4
18 KS5
19 KS6
20 KS7
21 KS8
22 KS9
23 KS10
24 KS11
25 SERIAL OUT
26 PB·EQ OUT
27 MS IN
28 A·P·SEL IN
29 PLAY1/2 OUT
30 CRO2 1 IN
31 CRO2 2 IN
32 METAL 2 IN
33 L·S 1 OUT
34 L·S 2 OUT
35 Q·S 1 IN
36 Q·S 2 IN
37 RESET OUT
38 CRO2 OUT
39 METAL 2 2OUT
40 POWER ON OUT
41 P.SOL1
42 CPM1
43 HI SP1
44 L.MUTU
45 OP1 OUT
46 OP2 OUT
47 CL1 OUT
48 CL2 OUT
49 NC
50 NC
51 NC
52 LED0
53 LED1 NC
54 LED2 NC
55 LED 2 NC
56 LED 3 NC
57 SERIAL IN
58 50/60 IN
59 STANDBY IN
60 NC
61 REC 2 OUT
62 REC MUTE2
63 OSC C2
64 HS2 OUT NC
65 CE OUT
66 CLK OUT
67 PLAY1 OUT
68 DATA OUT
69 PLAY SOL 2 OUT
70 CPM2 OUT
71 HI SP 2 OUT NC
72 DOLBY R/P OUT
73 PB MUTE OUT
74 NORMAL 2 OUT
75 NC
76 REEL·T·1 IN
77 REEL·T·2 IN
78 REEL·S·1 IN
79 REEL·S·2 IN
80 KR0
+6V
+5.4V
+5.4V
+5.4V
+5.4V
KR0
TXD
RXD
MINI JACK
CROM1
CROM2
METAL 2
KS0
KS1
KS2
KS3
KS4
KS5
KS10
F.P1
FF1
F.P2
FF2
C.RESET
KR0
R.P1
REW1
R.P2
REW2
TAPE.SIZE
KR1
STOP1
N.DUB
STOP2
P.ON/OFF
TAPE 1/2
KR2
REV MODE
OP/CL1
OP/CL2
REC.M2
CD SRS
KR3
KR2
KR1
IN OUT
LOAD1
HALF1
MODE1
KS9
KS6
KR0
IN OUT
LOAD 2
REC-F2
HALF 2
MODE2
REC-R2
KS8
KS7

CASSETTE DECK SECTION

PRINTED WIRING BOARD

1U-2479 UDRW-250 UNIT ASS'Y

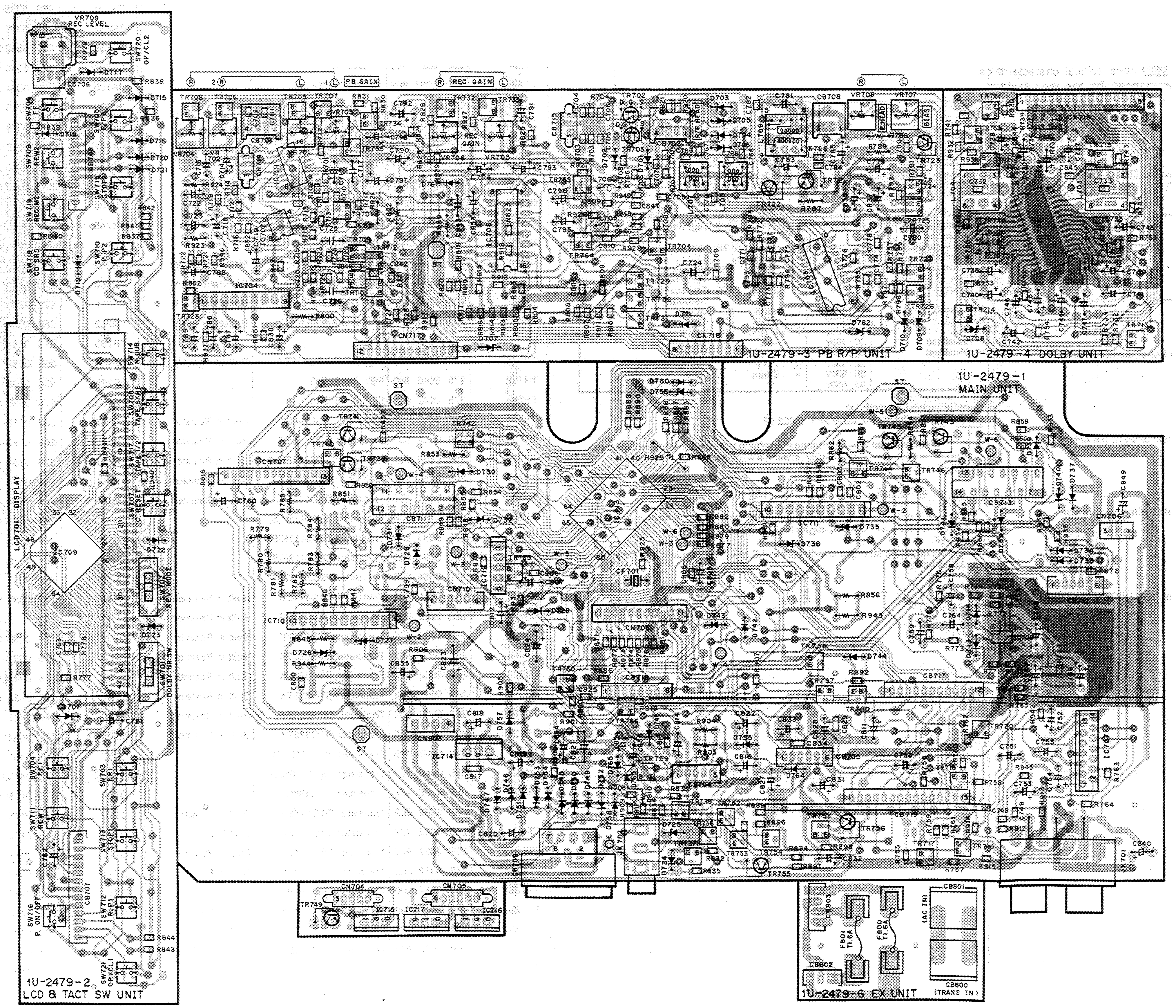
Component Side


1
2
3
4
5
6
7
8
A
B
C
D
E
DENON
1U-2479-4
DOLBY UNIT
▲ YG-H2
1U-2479-3
PB R/P UNIT
▲ YG-H2
DENON
REC GAIN
PB GAIN
DENON
2222479404
MAIN UNIT
1U-2479-1
▲ YG-H2
CB800
(TRANS IN)
1U-2479-6 EX UNIT
CB801
(AC IN)
T1.6A
F000
F001
CB802
CB803
▲ YG-H2
LCD701
DENON
LCD & TACT SW
UNIT
1U-2479-2
▲ YG-H2

CASSETTE DECK SECTION

1 2 3 4 5 6 7 8

Pattern Side


VR709 REC LEVEL
PB GAIN
REC GAIN
1U-2479-3 PB R/P UNIT
1U-2479-4 DOLBY UNIT
1U-2479-1 MAIN UNIT
LCD701 DISPLAY
1U-2479-2 LCD & TACT SW UNIT
1U-2479-6 EX UNIT
(AC IN)
(TRANS IN)
F801 T1.6A
F800 T1.6A

A
B
C
D
E

CASSETTE DECK SECTION

NOTE ON PARTS LIST

- Part indicated with the mark "◉" are not always in stock and possibly to take a long period of time for suppling, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W. Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

• Resistors

Ex.:	RN	14K	2E	182	G	FR
	Type	Shape and performance	Power	Resistance	Allowable error	Others

RD : Carbon Film	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metallic oxide Film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

※Resistance

1 8 2 ⇨ 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number
2-digit effective number

- Units: ohm

1 R 2 ⇨ 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.

- Units: ohm

※Capacity (electrolyte only)

2 2 R ⇨ 2200 μF
Indicates number of zeros after effective number.
2-digit effective number.

- Units: μF

2 R 2 ⇨ 2.2 μF
1-digit effective number.
2-digit effective number, decimal point indicated by R.

- Units: μF

• Capacitors

Ex.:	CE	04W	1H	2R2	M	BP
	Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others

CE : Aluminum foil electrolyte	0J : 6.3V	F : ±1%	HS : High stability type
CA : Aluminum solid electrolyte	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolyte	1C : 16V	J : ±5%	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : ±10%	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : +80% −20%	U : UL part
CP : Oil	2A : 100V		C : CSA part
CM : Mica	2B : 125V	P : +100% −0%	W : UL-CSA type
CF : Metallized	2C : 160V		F : Lead wire forming
CH : Metallized	2D : 200V	C : ±0.25pF	
	2E : 250V	D : ±0.5pF	
	2H : 500V	– : Others	
	2J : 630V		

※Capacity (except electrolyte)

2 R 2 ⇨ 2200pF = 2200 μF = 0.002 μF
(More than 2) — Indicates number of zeros after effective number.
2-digit effective number.

- Units: μF

2 2 1 ⇨ 220pF
(0 or 1) — Indicates number of zeros after effective number.
2-digit effective number.

- Units: pF
- When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

1U-2479A P.W.B UNIT ASSY PARTS LIST

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC701	262 1211 904	IC HD14053BFP	
IC702	263 0700 008	IC M5220FP	
IC703	263 0354 001	IC μPC1297CA	
IC704	263 0621 006	IC LA2000	
IC705	262 1267 903	IC CXA1331M	
IC706	263 0589 009	IC CXA1198AP	
IC707	263 0761 005	IC M51131L	
IC708	263 0615 902	IC BA15208F	
IC709	262 1363 001	IC LC7583	
IC710	263 0402 005	IC BA6209	
IC711	263 0402 005	IC BA6209	
IC712	263 0822 009	IC M62005L	
IC713	262 1626 201	IC HD404710A---	μ-com
IC714	263 0794 001	IC NJM78M12FA(S)	Regulator +12V
IC715	263 0792 003	IC NJM78M06FA(S)	Regulator +6 V
IC716	263 0815 003	IC NJM78M08FA(S)	Regulator +8 V
IC717	263 0511 006	IC NJM79M08FA	Regulator −8 V
TR701	269 0102 905	Transister DTC124EK	Built in Resistor
TR702	275 0042 905	FET 2SK373(Y)	
TR703	275 0042 905	FET 2SK373(Y)	
TR704	269 0083 901	Transister DTA144EK	Built in Resistor
TR705	269 0054 901	Transister DTC144EK	Built in Resistor
TR706	269 0054 901	Transister DTC144EK	Built in Resistor
TR707	269 0054 901	Transister DTC144EK	Built in Resistor
TR708	269 0054 901	Transister DTC144EK	Built in Resistor
TR709	273 0384 900	Transister 2SC2412K(S)	
TR710	273 0384 900	Transister 2SC2412K(S)	
TR711	273 0384 900	Transister 2SC2412K(S)	
TR712	273 0384 900	Transister 2SC2412K(S)	
TR713	269 0082 902	Transister DTC114EK	Built in Resistor
TR714	269 0082 902	Transister DTC114EK	Built in Resistor
TR715	269 0066 902	Transister DTC323TK	Built in Resistor
TR716	269 0066 902	Transister DTC323TK	Built in Resistor
TR717	269 0066 902	Transister DTC323TK	Built in Resistor
TR718	269 0066 902	Transister DTC323TK	Built in Resistor
TR719	269 0066 902	Transister DTC323TK	Built in Resistor
TR720	269 0066 902	Transister DTC323TK	Built in Resistor
TR721	273 0303 910	Transister 2SC1740S(S)	
TR722	273 0303 910	Transister 2SC1740S(S)	
TR723	272 0025 907	Transister 2SB562(C)	
TR724	269 0082 902	Transister DTC114EK	Built in Resistor
TR725	269 0082 902	Transister DTC114EK	Built in Resistor
TR726	269 0082 902	Transister DTC114EK	Built in Resistor
TR727	269 0082 902	Transister DTC114EK	Built in Resistor
TR728	273 0384 900	Transister 2SC2412K(S)	
TR729	269 0082 902	Transister DTC114EK	Built in Resistor
TR730	269 0082 902	Transister DTC114EK	Built in Resistor
TR731	269 0082 902	Transister DTC114EK	Built in Resistor
TR732	273 0384 900	Transister 2SC2412K(S)	
TR733	273 0384 900	Transister 2SC2412K(S)	
TR734	269 0083 901	Transister DTA144EK	Built in Resistor
TR735	269 0082 902	Transister DTC114EK	Built in Resistor
TR736	269 0082 902	Transister DTC114EK	Built in Resistor
TR737	269 0054 901	Transister DTC144EK	Built in Resistor
TR738	269 0054 901	Transister DTC144EK	Built in Resistor
TR739	272 0025 907	Transister 2SB562(C)	
TR740	269 0088 906	Transister DTC114TK	Built in Resistor
TR741	272 0025 907	Transister 2SB562(C)	
TR742	269 0088 906	Transister DTC114TK	Built in Resistor
TR743	272 0025 907	Transister 2SB562(C)	
TR744	269 0088 906	Transister DTC114TK	Built in Resistor
TR745	272 0025 907	Transister 2SB562(C)	
TR746	269 0088 906	Transister DTC114TK	Built in Resistor
TR749	273 0330 006	Transister 2SC3852	
TR750	273 0384 900	Transister 2SC2412K(S)	
TR751	273 0384 900	Transister 2SC2412K(S)	
TR752	269 0054 901	Transister DTC144EK	Built in Resistor
TR753	273 0384 900	Transister 2SC2412K(S)	
TR754	269 0082 902	Transister DTC114EK	Built in Resistor
TR755	271 0192 905	Transister 2SA933S(S)	
TR756	274 0036 905	Transister 2SD468(C)	
TR757	269 0083 901	Transister DTA144EK	Built in Resistor
TR758	269 0082 902	Transister DTC114EK	Built in Resistor
TR759	273 0384 900	Transister 2SC2412K(S)	
TR761	269 0054 901	Transister DTC144EK	Built in Resistor
TR762	269 0054 901	Transister DTC144EK	Built in Resistor
TR763	269 0054 901	Transister DTC144EK	Built in Resistor
TR764	269 0066 902	Transister DTC323TK	Built in Resistor
TR765	269 0066 902	Transister DTC323TK	Built in Resistor
TR766	269 0082 902	Transister DTC114EK	Built in Resistor
TR780	269 0083 901	Transister DTA144EK	Built in Resistor
D701	276 0432 903	Diode 1SS270A	
D702	276 0432 903	Diode 1SS270A	
D703	276 0432 903	Diode 1SS270A	
D704	276 0432 903	Diode 1SS270A	
D705	276 0432 903	Diode 1SS270A	
D706	276 0432 903	Diode 1SS270A	
D707	276 0461 903	Zener Diode HZS6A-1	6 V
D708	276 0468 906	Zener Diode HZS9B-1	9 V
D709	276 0468 906	Zener Diode HZS9B-1	9 V
D710	276 0468 906	Zener Diode HZS9B-1	9 V
D711	276 0432 903	Diode 1SS270A	
D713	276 0432 903	Diode 1SS270A	
D714	276 0432 903	Diode 1SS270A	
D715	276 0432 903	Diode 1SS270A	
D716	276 0432 903	Diode 1SS270A	
D717	276 0432 903	Diode 1SS270A	
D718	276 0432 903	Diode 1SS270A	
D719	276 0432 903	Diode 1SS270A	

Ref. No.	Part No.	Part Name	Remarks
D720	276 0432 903	Diode 1SS270A	
D721	276 0432 903	Diode 1SS270A	
D722	276 0432 903	Diode 1SS270A	
D723	276 0432 903	Diode 1SS270A	
D724	276 0463 901	Zener Diode HZS6C-1	6 V
D725	276 0463 901	Zener Diode HZS6C-1	6 V
D726	276 0466 908	Zener Diode HZS7C-1	7 V
D727	276 0456 905	Zener Diode HZS4B-1	4 V
D728	276 0432 903	Diode 1SS270A	
D729	276 0432 903	Diode 1SS270A	
D730	276 0553 905	Diode 1SR35-200A	
D731	276 0432 903	Diode 1SS270A	
D732	276 0432 903	Diode 1SS270A	
D733	276 0432 903	Diode 1SS270A	
D734	276 0432 903	Diode 1SS270A	
D735	276 0456 905	Zener Diode HZS4B-1	4 V
D736	276 0466 908	Zener Diode HZS7C-1	7 V
D737	276 0553 905	Diode 1SR35-200A	
D738	276 0432 903	Diode 1SS270A	
D739	276 0432 903	Diode 1SS270A	
D740	276 0432 903	Diode 1SS270A	
D741	276 0432 903	Diode 1SS270A	
D742	276 0553 905	Diode 1SR35-200A	
D743	276 0432 903	Diode 1SS270A	
D744	276 0432 903	Diode 1SS270A	
D745	276 0553 905	Diode 1SR35-200A	
D746	276 0553 905	Diode 1SR35-200A	
D747	276 0553 905	Diode 1SR35-200A	
D748	276 0553 905	Diode 1SR35-200A	
D749	276 0553 905	Diode 1SR35-200A	
D750	276 0553 905	Diode 1SR35-200A	
D751	276 0553 905	Diode 1SR35-200A	
D752	276 0553 905	Diode 1SR35-200A	
D753	276 0553 905	Diode 1SR35-200A	
D754	276 0432 903	Diode 1SS270A	
D755	276 0473 904	Zener Diode HZS12A-1	12 V
D756	276 0452 909	Zener Diode HZS3A-1	3 V
D757	276 0432 903	Diode 1SS270A	
D758	276 0432 903	Diode 1SS270A	
D760	276 0432 903	Diode 1SS270A	
D761	276 0432 903	Diode 1SS270A	
D762	276 0460 904	Zener Diode HZS5C-1	5 V
D763	276 0432 903	Diode 1SS270A	
D764	276 0432 903	Diode 1SS270A	
D765	276 0456 918	Zener Diode HZS4B-2	4 V
	393 4143 001	LCD (8235JP)	LCD
	393 9470 009	LED	LED
RESISTORS GROUP (Not included Carbon Film ±5%,1/4W Type. Refer to the Scematic Diagram for those Parts.)			
R701	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R702	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R703	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R704	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R705	247 0015 940	Chip Carbon 2.2Mohm 1/10W	RM73B--225J
R706	247 0015 940	Chip Carbon 2.2Mohm 1/10W	RM73B--225J
R707	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R708	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R709	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R710	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R711	247 0011 960	Chip Carbon 56 kohm 1/10W	RM73B--563J
R712	247 0011 960	Chip Carbon 56 kohm 1/10W	RM73B--563J
R713	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R714	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R715	247 0013 926	Chip Carbon 270kohm 1/10W	RM73B--274J
R716	247 0013 926	Chip Carbon 270kohm 1/10W	RM73B--274J
R717	247 0010 945	Chip Carbon 18 kohm 1/10W	RM73B--183J
R718	247 0010 945	Chip Carbon 18 kohm 1/10W	RM73B--183J
R719	247 0008 960	Chip Carbon 3.3kohm 1/10W	RM73B--332J
R720	247 0008 960	Chip Carbon 3.3kohm 1/10W	RM73B--332J
R721	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R722	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R723	247 0009 914	Chip Carbon 5.1kohm 1/10W	RM73B--512J
R724	247 0009 914	Chip Carbon 5.1kohm 1/10W	RM73B--512J
R725	247 0009 956	Chip Carbon 7.5kohm 1/10W	RM73B--752J
R726	247 0009 956	Chip Carbon 7.5kohm 1/10W	RM73B--752J
R727	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R728	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R729	247 0014 967	Chip Carbon 1 Mohm 1/10W	RM73B--105J
R730	247 0014 967	Chip Carbon 1 Mohm 1/10W	RM73B--105J
R731	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R732	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R733	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R734	247 0009 914	Chip Carbon 5.1kohm 1/10W	RM73B--512J
R735	247 0010 974	Chip Carbon 24 kohm 1/10W	RM73B--243J
R736	247 0010 974	Chip Carbon 24 kohm 1/10W	RM73B--243J
R737	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R738	247 0009 956	Chip Carbon 7.5kohm 1/10W	RM73B--752J
R739	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R740	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R741	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R742	247 0008 960	Chip Carbon 3.3kohm 1/10W	RM73B--332J
R743	247 0008 960	Chip Carbon 3.3kohm 1/10W	RM73B--332J
R744	247 0009 956	Chip Carbon 7.5kohm 1/10W	RM73B--752J
R745	247 0009 956	Chip Carbon 7.5kohm 1/10W	RM73B--752J
R746	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R747	247 0010 974	Chip Carbon 24 kohm 1/10W	RM73B--243J
R748	247 0010 974	Chip Carbon 24 kohm 1/10W	RM73B--243J
R749	247 0006 988	Chip Carbon 560ohm 1/10W	RM73B--561J
R750	247 0006 988	Chip Carbon 560ohm 1/10W	RM73B--561J
R751	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R752	247 0010 987	Chip Carbon 27 kohm 1/10W	RM73B--273J
R753	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R754	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R755	247 0008 902	Chip Carbon 1.8kohm 1/10W	RM73B--182J
R756	247 0008 902	Chip Carbon 1.8kohm 1/10W	RM73B--182J
R757	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R758	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R759	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R760	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R761	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R762	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R763	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R764	247 0011 902	Chip Carbon 33 kohm 1/10W	RM73B--333J
R765	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R766	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R767	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R768	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R769	247 0010 929	Chip Carbon 15 kohm 1/10W	RM73B--153J
R770	247 0010 929	Chip Carbon 15 kohm 1/10W	RM73B--153J
R771	247 0010 958	Chip Carbon 20 kohm 1/10W	RM73B--203J
R772	247 0010 958	Chip Carbon 20 kohm 1/10W	RM73B--203J
R773	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R774	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R775	247 0013 984	Chip Carbon 470kohm 1/10W	RM73B--474J
R776	247 0013 984	Chip Carbon 470kohm 1/10W	RM73B--474J
R777	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R778	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R786	247 0010 945	Chip Carbon 18 kohm 1/10W	RM73B--183J
R790	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R791	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R792	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R793	247 0012 969	Chip Carbon 150kohm 1/10W	RM73B--154J
R794	247 0012 969	Chip Carbon 150kohm 1/10W	RM73B--154J
R795	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R796	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R797	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R798	247 0006 988	Chip Carbon 560ohm 1/10W	RM73B--561J
R799	247 0007 987	Chip Carbon 1.5kohm 1/10W	RM73B--152J
R801	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R802	247 0011 960	Chip Carbon 56 kohm 1/10W	RM73B--563J
R803	247 0012 914	Chip Carbon 91 kohm 1/10W	RM73B--913J
R804	247 0012 901	Chip Carbon 82 kohm 1/10W	RM73B--823J
R805	247 0010 929	Chip Carbon 15 kohm 1/10W	RM73B--153J
R806	247 0012 930	Chip Carbon 110kohm 1/10W	RM73B--114J
R807	247 0011 986	Chip Carbon 68 kohm 1/10W	RM73B--683J
R808	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R809	247 0011 957	Chip Carbon 51 kohm 1/10W	RM73B--513J
R810	247 0011 957	Chip Carbon 51 kohm 1/10W	RM73B--513J
R811	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R812	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R813	247 0012 943	Chip Carbon 120kohm 1/10W	RM73B--124J
R814	247 0011 986	Chip Carbon 68 kohm 1/10W	RM73B--683J
R815	247 0011 957	Chip Carbon 51 kohm 1/10W	RM73B--513J
R816	247 0011 957	Chip Carbon 51 kohm 1/10W	RM73B--513J
R817	247 0012 943	Chip Carbon 120kohm 1/10W	RM73B--124J
R818	247 0012 998	Chip Carbon 200kohm 1/10W	RM73B--204J
R819	247 0011 986	Chip Carbon 68 kohm 1/10W	RM73B--683J
R820	247 0012 969	Chip Carbon 150kohm 1/10W	RM73B--154J
R823	247 0010 974	Chip Carbon 24 kohm 1/10W	RM73B--243J
R824	247 0009 927	Chip Carbon 5.6kohm 1/10W	RM73B--562J
R825	247 0009 927	Chip Carbon 5.6kohm 1/10W	RM73B--562J
R826	247 0009 927	Chip Carbon 5.6kohm 1/10W	RM73B--562J
R827	247 0009 927	Chip Carbon 5.6kohm 1/10W	RM73B--562J
R828	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R829	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R830	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R831	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R832	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R833	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R834	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R836	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R837	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R838	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R839	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R840	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R841	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R842	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R843	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R844	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R846	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R847	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R848	247 0010 990	Chip Carbon 30 kohm 1/10W	RM73B--303J
R849	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R850	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R852	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R854	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R855	247 0010 990	Chip Carbon 30 kohm 1/10W	RM73B--303J
R857	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R858	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R859	247 0010 990	Chip Carbon 30 kohm 1/10W	RM73B--303J
R860	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R861	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R863	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R865	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R866	247 0010 990	Chip Carbon 30 kohm 1/10W	RM73B--303J
R870	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R871	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R872	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R873	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R874	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R875	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R876	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R877	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J

CASSETTE DECK SECTION

Ref. No.	Part No.	Part Name	Remarks
R878	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R879	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R880	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R881	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R882	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R883	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R884	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R885	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R886	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R887	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R888	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R889	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R890	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R891	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R892	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R894	247 0008 931	Chip Carbon 2.4kohm 1/10W	RM73B--242J
R896	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R897	247 0000 931	Chip Carbon 2.4kohm 1/10W	RM73B--242J
R898	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R899	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R900	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R901	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R902	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R905	247 0018 905	Chip Carbon 0 ohm 1/10W	RM73B--0R0J
R906	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R907	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R908	247 0005 905	Chip Carbon 100ohm 1/10W	RM73B--101J
R909	247 0009 901	Chip Carbon 4.7kohm 1/10W	RM73B--472J
R910	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R911	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R912	247 0006 962	Chip Carbon 470 ohm 1/10W	RM73B--471J
R913	247 0006 962	Chip Carbon 470 ohm 1/10W	RM73B--471J
R914	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R915	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R916	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R917	247 0010 961	Chip Carbon 22 kohm 1/10W	RM73B--223J
R918	247 0012 927	Chip Carbon 100kohm 1/10W	RM73B--104J
R919	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R920	247 0018 905	Chip Carbon 0 ohm 1/10W	RM73B--0R0K
R921	247 0018 905	Chip Carbon 0 ohm 1/10W	RM73B--0R0K
R922	247 0011 944	Chip Carbon 47 kohm 1/10W	RM73B--473J
R925	247 0014 967	Chip Carbon 1 Mohm 1/10W	RM73B--105J
R926	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R927	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R928	247 0007 945	Chip Carbon 1 kohm 1/10W	RM73B--102J
R930	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R931	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R932	247 0009 914	Chip Carbon 5.1kohm 1/10W	RM73B--512J
R933	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R934	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R935	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J

Ref. No.	Part No.	Part Name	Remarks
R936	247 0008 928	Chip Carbon 2.2kohm 1/10W	RM73B--222J
R937	247 0010 990	Chip Carbon 30 kohm 1/10W	RM73B--303J
R938	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R940	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R941	247 0009 985	Chip Carbon 10 kohm 1/10W	RM73B--103J
R942	247 0011 999	Chip Carbon 75 kohm 1/10W	RM73B--753J
R943	247 0011 999	Chip Carbon 75 kohm 1/10W	RM73B--753J
R946	247 0018 905	Chip Carbon 0 ohm 1/10W	RM73B--0R0K
R947	247 0018 905	Chip Carbon 0 ohm 1/10W	RM73B--0R0K
R948	247 0010 929	Chip Carbon 15 kohm 1/10W	RM73B--153J
R949	247 0010 929	Chip Carbon 15 kohm 1/10W	RM73B--153J
⚠R787	241 2313 985	Carbon Film 4.7ohm 1/4W(NB)	RD14B2E820JFRS
⚠R788	241 2315 925	Fusible 22 ohm 1/4W(NB)	RD14B2E820GFRS
⚠R789	241 2315 925	Fusible 22 ohm 1/4W(NB)	RD14B2E820GFRS
⚠R821	241 2377 921	Carbon Film 82 ohm 1/4W(NB)	RD14B2E820JNBS
⚠R822	241 2377 921	Carbon Film 82 ohm 1/4W(NB)	RD14B2E820JNBS
⚠R845	244 2050 904	Metal Oxide 22 ohm 1W (NB)	RS14B3A220JNBS(S)
⚠R856	244 2050 904	Metal Oxide 22 ohm 1W (NB)	RS14B3A220JNBS(S)
⚠R944	244 2050 904	Metal Oxide 22 ohm 1W (NB)	RS14B3A220JNBS(S)
⚠R945	244 2050 904	Metal Oxide 22 ohm 1W (NB)	RS14B3A220JNBS(S)
VR701	211 6091 901	Semi Fixed Resistor 1k ohm	V06PB102
VR702	211 6091 901	Semi Fixed Resistor 1k ohm	V06PB102
VR703	211 6091 901	Semi Fixed Resistor 1k ohm	V06PB102
VR704	211 6091 901	Semi Fixed Resistor 1k ohm	V06PB102
VR705	211 6091 930	Semi Fixed Resistor 10k ohm	V06PB103
VR706	211 6091 930	Semi Fixed Resistor 10k ohm	V06PB103
VR707	211 6091 956	Semi Fixed Resistor 47k ohm	V06PB473
VR708	211 6091 956	Semi Fixed Resistor 47k ohm	V06PB473
VR709	211 6090 009	Semi Fixed Resistor 100k ohm	V0920P07FA104
CAPACITORS GROUP			
C701	257 0006 927	Chip Ceramic 470 pF/50 V	CC73SL1H471J
C702	257 0006 927	Chip Ceramic 470 pF/50 V	CC73SL1H471J
C703	257 0005 986	Chip Ceramic 330 pF/50 V	CC73SL1H331J
C704	257 0005 986	Chip Ceramic 330 pF/50 V	CC73SL1H331J
C705	257 0002 921	Chip Ceramic 10 pF/50 V	CC73SL1H100D
C706	257 0002 921	Chip Ceramic 10 pF/50 V	CC73SL1H100D
C707	257 0008 983	Chip Ceramic 1000 pF/50 V	CK73B1H102K
C708	257 0008 983	Chip Ceramic 1000 pF/50 V	CK73B1H102K
C709	257 0008 983	Chip Ceramic 1000 pF/50 V	CK73B1H102K
C710	257 0012 966	Chip Ceramic 0.01µF/50 V	CK73F1H103Z
C711	257 0012 966	Chip Ceramic 0.01µF/50 V	CK73F1H103Z
C712	257 0004 961	Chip Ceramic 100 pF/50 V	CC73SL1H101J
C713	257 0004 961	Chip Ceramic 100 pF/50 V	CC73SL1H101J
C714	254 4300 963	Electrolytic 100µF/6.3 V	CE04W0J101M(SRE)
C715	254 4300 963	Electrolytic 100µF/6.3 V	CE04W0J101M(SRE)
C716	255 1256 903	Plastic Film 0.0075µF/50V	CQ92M1H752J(MRZ)
C717	255 1256 903	Plastic Film 0.0075µF/50V	CQ92M1H752J(MRZ)
C718	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)

Ref. No.	Part No.	Part Name	Remarks
C719	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C722	254 4252 927	Electrolytic 47µF/10 V	CE04W1A470M
C723	254 4252 927	Electrolytic 47µF/10 V	CE04W1A470M
C724	254 4302 974	Electrolytic 100µF/10 V	CE04W1A101M(SRE)
C725	255 1265 936	Plastic Film 0.01µF/50 V	CQ93M1H103J(B)
C726	255 1265 936	Plastic Film 0.01µF/50 V	CQ93M1H103J(B)
C727	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C728	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C729	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C730	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C731	254 4299 003	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C732	257 0009 937	Chip Ceramic 2700 pF/50 V	CK73B1H272K
C733	257 0009 937	Chip Ceramic 2700 pF/50 V	CK73B1H272K
C734	257 0009 924	Chip Ceramic 2200 pF/50 V	CK73B1H222K
C735	257 0009 924	Chip Ceramic 2200 pF/50 V	CK73B1H222K
C736	257 0009 924	Chip Ceramic 2200 pF/50 V	CK73B1H222K
C737	257 0009 924	Chip Ceramic 2200 pF/50 V	CK73B1H222K
C738	254 4278 943	Electrolytic 0.56µF/50 V	CE04W1HR56M
C739	254 4278 943	Electrolytic 0.56µF/50 V	CE04W1HR56M
C740	254 4305 939	Electrolytic 0.33µF/50 V	CE04W1HR33M(SRE)
C741	254 4305 939	Electrolytic 0.33µF/50 V	CE04W1HR33M(SRE)
C742	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C743	254 4304 024	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C744	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C745	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C746	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C747	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C748	257 0006 927	Chip Ceramic 470 pF/50 V	CC73SL1H471J
C749	257 0006 927	Chip Ceramic 470 pF/50 V	CC73SL1H471J
C750	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C751	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C752	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C753	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C754	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C755	254 4299 919	Electrolytic 22µF/16 V	CE04W1C220M(SRE)
C756	254 4305 997	Electrolytic 3.3µF/50 V	CE04W1H3R3M(SRE)
C757	254 4305 997	Electrolytic 3.3µF/50 V	CE04W1H3R3M(SRE)
C758	254 4305 997	Electrolytic 3.3µF/50 V	CE04W1H3R3M(SRE)
C759	254 4305 997	Electrolytic 3.3µF/50 V	CE04W1H3R3M(SRE)
C760	254 4303 957	Electrolytic 22µF/25 V	CE04W1E220M(SRE)
C761	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C762	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C763	257 0008 983	Chip Ceramic 1000 pF/50 V	CK73B1H102K
C764	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C765	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C766	257 0004 961	Chip Ceramic 100 pF/50 V	CC73SL1H101J
C767	257 0004 961	Chip Ceramic 100 pF/50 V	CC73SL1H101J
C768	257 0006 927	Chip Ceramic 470 pF/50 V	CC73SL1H471J
C769	257 0006 927	Chip Ceramic 470 pF/50 V	CC73SL1H471J
C770	257 0010 984	Chip Ceramic 0.047µF/50 V	CK73B1H473K
C771	257 0006 985	Chip Ceramic 820 pF/50 V	CC73SL1H821J

Ref. No.	Part No.	Part Name	Remarks
C772	257 0006 985	Chip Ceramic 820 pF/50 V	CC73SL1H821J
C773	257 0010 900	Chip Ceramic 0.01µF/50 V	CK73B1H103K
C774	257 0010 900	Chip Ceramic 0.01µF/50 V	CK73B1H103K
C775	257 0010 984	Chip Ceramic 0.047µF/50 V	CK73B1H473K
C776	257 0010 984	Chip Ceramic 0.047µF/50 V	CK73B1H473K
C777	257 0010 942	Chip Ceramic 0.022µF/50 V	CK73B1H223K
C778	257 0010 942	Chip Ceramic 0.022µF/50 V	CK73B1H223K
C779	254 4304 943	Electrolytic 10µF/35 V	CE04W1V100M(SRE)
C780	254 4303 957	Electrolytic 22µF/25 V	CE04W1E220M(SRE)
C781	255 1265 936	Plastic Film 0.0082µF/200V	CQ92M2D822J
C782	257 0002 921	Chip Ceramic 10 pF/50 V	CC73SL1H100D
C783	255 1265 978	Plastic Film 0.022µF/50 V	CQ93M1H223J(B)
C784	257 0009 937	Chip Ceramic 2700 pF/50 V	CK73B1H272K
C785	254 4256 952	Electrolytic 220µF/25 V	CE04W1E221M
C786	254 4305 900	Electrolytic 0.1µF/50 V	CE04W1H0R1M(SRE)
C787	254 4305 900	Electrolytic 0.1µF/50 V	CE04W1H0R1M(SRE)
C788	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C789	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C790	254 4252 930	Electrolytic 100µF/10 V	CE04W1A101M
C791	254 4305 942	Electrolytic 0.47µF/50 V	CE04W1HR47M(SRE)
C792	254 4305 942	Electrolytic 0.47µF/50 V	CE04W1HR47M(SRE)
C793	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C794	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C795	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C796	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C797	254 4252 930	Electrolytic 100µF/10 V	CE04W1A101M
C798	254 4327 904	Electrolytic 1000µF/6.3 V	CE04W0J102M(SMG)
C799	257 0014 935	Chip Ceramic 0.1µF/25 V	CK73F1E104Z
C800	257 0014 935	Chip Ceramic 0.1µF/25 V	CK73F1E104Z
C802	257 0014 935	Chip Ceramic 0.1µF/25 V	CK73F1E104Z
C803	257 0014 935	Chip Ceramic 0.1µF/25 V	CK73F1E104Z
C805	254 4327 904	Electrolytic 1000µF/6.3 V	CE04W0J102M(SMG)
C806	257 0012 966	Chip Ceramic 0.01µF/50 V	CK73F1H103Z
C807	254 4305 942	Electrolytic 0.47µF/50 V	CE04W1HR47M(SRE)
C808	257 0014 935	Chip Ceramic 0.1µF/25 V	CK73F1E104Z
C809	257 0005 902	Chip Ceramic 150 pF/50 V	CC73SL1H151J
C810	257 0005 902	Chip Ceramic 150 pF/50 V	CC73SL1H151J
C811	254 4304 927	Electrolytic 4.7µF/35 V	CE04W1V4R7M(SRE)
C812	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C813	257 1013 977	Chip Ceramic 0.068µF/25 V	CK73B1E683K
C814	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C816	254 4256 949	Electrolytic 100µF/25 V	CE04W1E101M
C817	257 1013 977	Chip Ceramic 0.068µF/25 V	CK73B1E683K
C818	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C819	254 4261 921	Electrolytic 100µF/50 V	CE04W1H101M
C820	254 4258 950	Electrolytic 100µF/35 V	CE04W1V101M
C821	254 4256 790	Electrolytic 2200µF/25 V	CE04W1E222MC
C822	254 4254 938	Electrolytic 47µF/16 V	CE04W1C470M
C823	254 4256 790	Electrolytic 2200µF/25 V	CE04W1E222MC
C824	254 4257 702	Electrolytic 3300µF/25 V	CE04W1E332MC
C825	257 0010 900	Chip Ceramic 0.01µF/50 V	CK73B1H103K

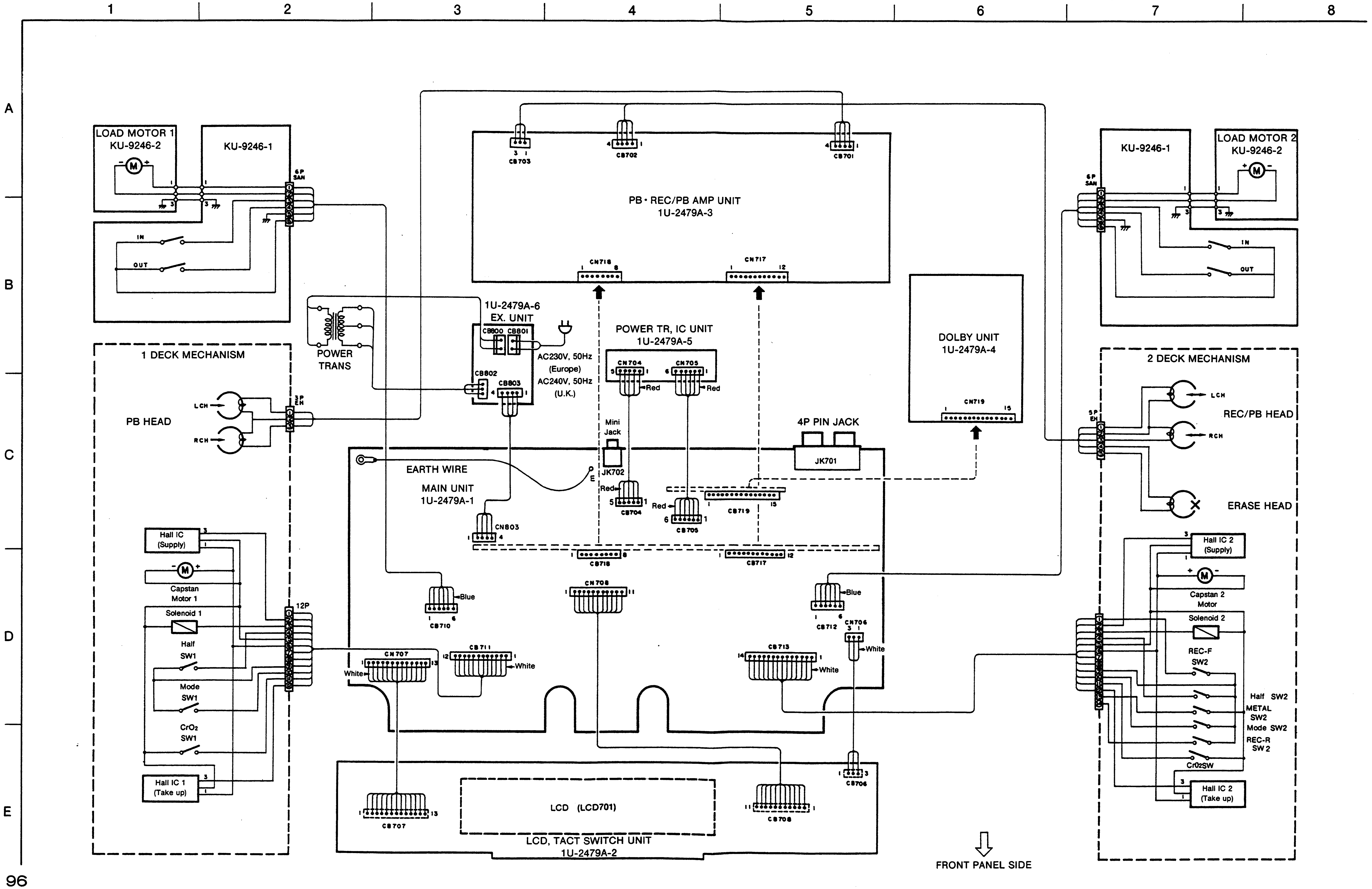
Ref. No.	Part No.	Part Name	Remarks
C827	254 4304 943	Electrolytic 10µF/35 V	CE04W1V100M(SRE)
C828	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C829	257 1013 977	Chip Ceramic 0.068µF/25 V	CK73B1E683K
C831	254 4304 943	Electrolytic 10µF/35 V	CE04W1V100M(SRE)
C832	254 4305 942	Electrolytic 0.47µF/50 V	CE04W1HR47M(SRE)
C833	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C834	257 1013 977	Chip Ceramic 0.068µF/25 V	CK73B1E683K
C835	254 4256 952	Electrolytic 220µF/25 V	CE04W1E221M
C836	254 4305 997	Electrolytic 3.3µF/50 V	CE04W1H3R3M(SRE)
C837	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C838	254 4302 974	Electrolytic 100µF/10 V	CE04W1A101M(SRE)
C839	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C840	254 4305 968	Electrolytic 1µF/50 V	CE04W1H010M(SRE)
C841	257 0014 935	Chip Ceramic 0.1µF/25 V	CK73F1E104Z
C842	257 0014 935	Chip Ceramic 0.1µF/25 V	CK73F1E104Z
C843	254 4299 906	Electrolytic 10µF/16 V	CE04W1C100M(SRE)
C846	257 0005 986	Chip Ceramic 330 pF/50 V	CC73SL1H331J
C847	257 0005 986	Chip Ceramic 330 pF/50 V	CC73SL1H331J
C849	254 4260 948	Electrolytic 1µF/50 V	CE04W1H010M
C851	257 0003 904	Chip Ceramic 22 pF/50 V	CC73SL1H220J
C852	257 0003 904	Chip Ceramic 22 pF/50 V	CC73SL1H220J
C853	254 4254 006	Electrolytic 10µF/16 V	CE04W1C100M
C854	254 4260 058	Electrolytic 2.2µF/50 V	CE04W1H2R2M

OTHERS GROUP				Q'ty
	—	(P.W.Board)		1
L703	232 0109 003	MPX Filter		1
L704	232 0109 003	MPX Filter		1
L705	235 0020 945	Inductor 153J		1
L706	235 0020 945	Inductor 153J		1
L707	239 0010 009	HX Step up Coil		1
L708	239 0010 009	HX Step up Coil		1
L709	232 0135 006	OSC Coil		1
	212 5604 910	Tact Switch		19
SW701	212 1078 906	Slide Switch(1-3)		1
SW702	212 1078 906	Slide Switch(1-3)		1
	449 0057 009	LCD Holder		1
CF701	399 9018 003	Ceramic Vibrator	GST4.00MGW	1
JK701	204 8266 008	4 P Pin Jsck(S-GND)		1
JK702	204 8421 005	Mini Jack		1
CB709	204 2429 003	7 P System Socket		1
△F800	206 1015 058	Fuse 1.6 A		1
△F801	206 1015 058	Fuse 1.6 A		1
	202 0040 909	Fuse Clip		4
				1
	205 0452 017	Style Pin		3
CB701	205 0343 045	4 P Conn. Base(KR-PH)	For PB Head	1
CB702	205 0321 041	4 P Conn. Base(Red)	For R/PB Head	1
CB703	205 0355 033	3 P KR Conn. Base(L)		1
CB704	205 0343 058	5 P Conn. Base(KR-PH)		1
CB705	205 0343 061	6 P Conn. Base(KR-PH)		1

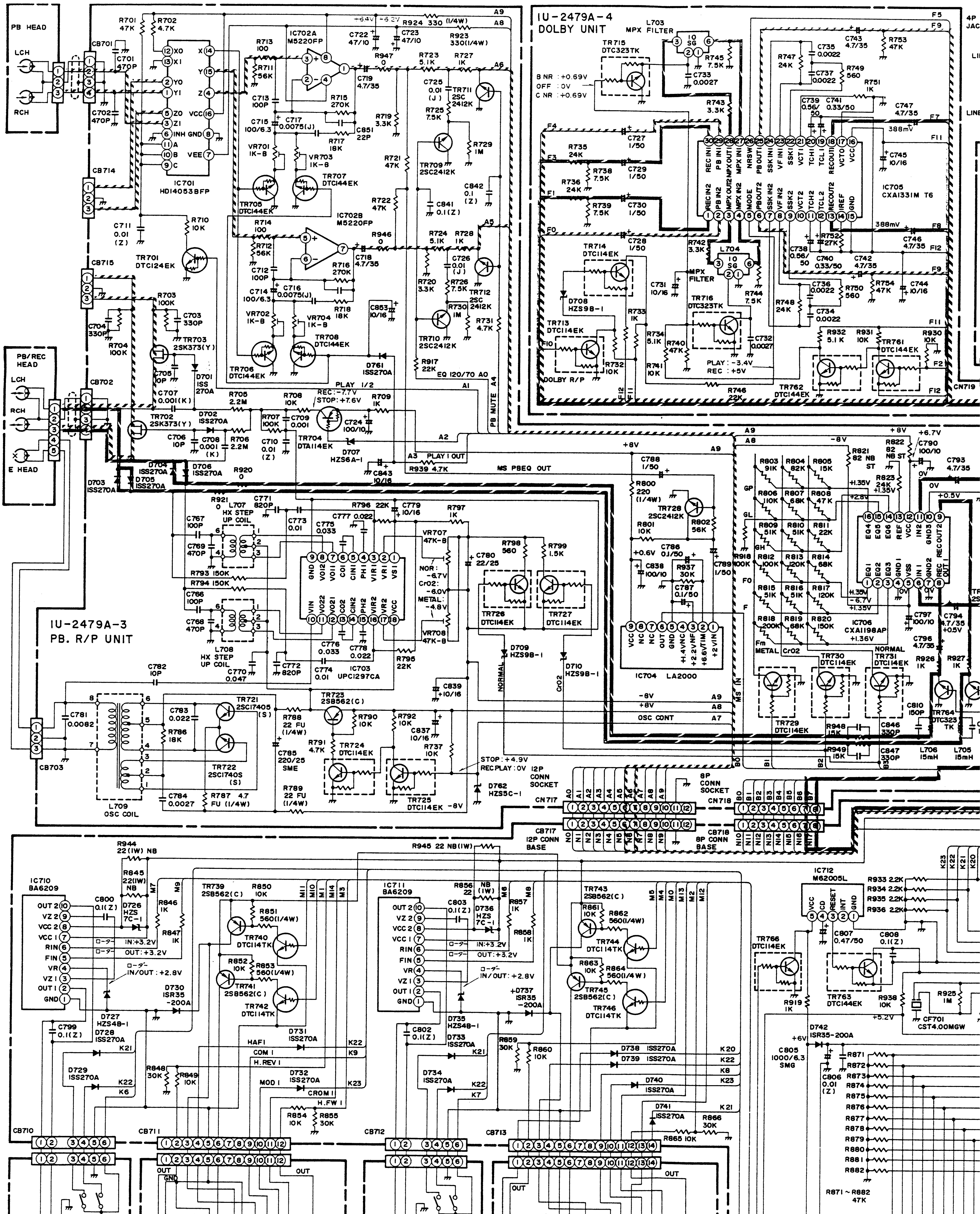
Ref. No.	Part No.	Part Name	Remarks	Q'ty
CB706	205 0343 032	3 P Conn. Base(KR-PH)		1
CB707	205 0375 039	13 P Conn. Base(KR-PH)		1
CB708	205 0375 013	11 P Conn. Base(KR-PH)		1
CB710	205 0343 061	6 P Conn. Base(KR-PH)		1
CB712	205 0343 061	6 P Conn. Base(KR-PH)		1
CB711	205 0553 026	12 P Trap Conn. Base		1
CB713	205 0554 041	14 P Trap Conn. Base		1
CB714	205 0409 031	3 P Dip Socket		1
CB715	205 0409 031	3 P Dip Socket		1
CN704	205 0409 057	5 P Dip Socket		1
CN705	205 0409 060	6 P Dip Socket		1
CB717	205 0535 028	12 P Conn. Base		1
CB718	205 0535 002	8 P Conn. Base		1
CN717	205 0536 027	12 P Conn. Socket		1
CN718	205 0536 001	8 P Conn. Socket		1
CN719	205 0708 017	15 P Conn. Socket		1
CN719	205 0707 018	15 P Conn. Base		1
W001	203 0226 014	1 P Contact Assy	L=120	1
W002	209 0220 005	Vinyl Wire(UL1007)	L=150	1
W003	209 0220 047	Vinyl Wire(UL1007)	L=100	1
W004	209 0220 005	Vinyl Wire(UL1007)	L=150	1
W005	209 0220 047	Vinyl Wire(UL1007)	L=100	1
W006	209 0220 047	Vinyl Wire(UL1007)	L=100	1
	204 0009 014	2 C Sheild Wire	L=150	1
CN704	203 8337 015	5 P PH Conn. Cord	L=100	1
CN705	204 0391 007	6 P PH Conn. Cord	L=100	1
CN706	203 4896 000	3 P KR-DA Conn. Cord	L=360	1
CN708	204 6387 002	11 P KR-DA Conn. Cord	L=300	1
CN707	204 6388 001	13 P KR-DA Conn. Cord	L=300	1
CN803	203 6352 005	4 P EH-SCN Conn. Cord	L=150	1
△CB800	205 0581 001	12 P VH Conn. Base		1
△CB801	205 0581 001	12 P VH Conn. Base		1
△CB802	205 0233 032	3 P EH Conn. Base		1
CB803	205 0233 045	4 P EH Conn. Base		1

CASSETTE DECK SECTION

WIRING DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
LOAD MOTOR 1
KU-9246-2
M
KU-9246-1
6P SAN
IN
OUT
1 DECK MECHANISM
PB HEAD
LCH
RCH
3P EH
POWER TRANS
1U-2479A-6
EX. UNIT
CB800
CB801
CB802
CB803
AC230V, 50Hz
(Europe)
AC240V, 50Hz
(U.K.)
CB703
CB702
CB701
PB・REC/PB AMP UNIT
1U-2479A-3
CN718
CN717
POWER TR, IC UNIT
1U-2479A-5
CN704
CN705
Red
Mini Jack
JK702
4P PIN JACK
JK701
DOLBY UNIT
1U-2479A-4
CN719
EARTH WIRE
E
MAIN UNIT
1U-2479A-1
CN803
CB704
CB705
CB719
CB718
CB717
CN708
CB710
Blue
CB712
CN706
White
CN707
CB711
CB713
Hall IC (Supply)
Capstan Motor 1
Solenoid 1
Half SW1
Mode SW1
CrO2 SW1
Hall IC 1 (Take up)
12P
LCD (LCD701)
LCD, TACT SWITCH UNIT
1U-2479A-2
CB707
CB708
CB706
FRONT PANEL SIDE
LOAD MOTOR 2
KU-9246-2
KU-9246-1
6P SAN
IN
OUT
2 DECK MECHANISM
5P EH
REC/PB HEAD
LCH
RCH
ERASE HEAD
Hall IC 2 (Supply)
Capstan 2 Motor
Solenoid 2
REC-F SW2
Half SW2
METAL SW2
Mode SW2
REC-R SW 2
CrO2SW
Hall IC 2 (Take up)

1 2 3 4 5 6


PB HEAD
LCH
RCH
CB701
C701 470P
C702 470P
R701 47K
R702 4.7K
IC701 HD14053BFP
IC702A M5220FP
IC702B M5220FP
CB714
CB715
TR701 DTC124EK
TR702 2SK373(Y)
TR703 2SK373(Y)
TR704 DTA114EK
TR705 DTC144EK
TR706 DTC144EK
TR707 DTC144EK
TR708 DTC144EK
TR709 2SC2412K
TR710 2SC2412K
TR711 2SC2412K
TR712 2SC2412K
R924 330 (1/4W)
R923 330(1/4W)
PB/REC HEAD
E HEAD
CB702
D701 1SS270A
D702 1SS270A
D703 1SS270A
D704 1SS270A
D705 1SS270A
D706 1SS270A
D707 HZS6A-1
D761 1SS270A
PLAY 1/2
REC: -7.7V
STOP: +7.6V
EQ 120/70 A0
PB MUTE A4
A3 PLAY 1 OUT
MS PBEQ OUT
IU-2479A-4
DOLBY UNIT
MPX FILTER
L703
TR715 DTC323TK
B NR: +0.69V
OFF: 0V
C NR: +0.69V
IC705 CXA1331M T6
388mV
TR713 DTC114EK
TR714 DTC114EK
TR716 DTC323TK
TR761 DTC144EK
TR762 DTC144EK
D708 HZS9B-1
DOLBY R/P
L704
PLAY: -3.4V
REC: +5V
CN719
IU-2479A-3
PB. R/P UNIT
L707 HX STEP UP COIL
L708 HX STEP UP COIL
IC703 UPC1297CA
VR707 47K-B
VR708 47K-B
NOR: -6.7V
CrO2: -6.0V
METAL: -4.8V
TR726 DTC114EK
TR727 DTC114EK
D709 HZS9B-1
D710 HZS9B-1
NORMAL
CrO2
TR721 2SC1740S(S)
TR722 2SC1740S(S)
TR723 2SB562(C)
TR724 DTC114EK
TR725 DTC114EK
L709 OSC COIL
CB703
STOP: +4.9V
REC PLAY: 0V
D762 HZS5C-1
12P CONN SOCKET
CN717
CB717 12P CONN BASE
8P CONN SOCKET
CN718
CB718 8P CONN BASE
IC704 LA2000
TR728 2SC2412K
OSC CONT
MS IN
IC706 CXA1198AP
TR729 DTC114EK
TR730 DTC114EK
TR731 DTC114EK
TR764 DTC323TK
L705 15mH
L706 15mH
METAL
Fm
NORMAL
IC710 BA6209
IC711 BA6209
IC712 M62005L
TR739 2SB562(C)
TR740 DTC114TK
TR741 2SB562(C)
TR742 DTC114TK
TR743 2SB562(C)
TR744 DTC114TK
TR745 2SB562(C)
TR746 DTC114TK
TR763 DTC144EK
TR766 DTC114EK
CF701 CST4.00MGW
IN: +3.2V
OUT: +3.2V
IN/OUT: +2.8V
D726 HZS 7C-1
D727 HZS4B-1
D730 1SR35-200A
D736 HZS 7C-1
D735 HZS4B-1
D737 1SR35-200A
D742 1SR35-200A
D743 1SS270A
C805 1000/6.3 SMG
R871 ~ R882 47K
HAF1
COM 1
H.REV 1
MOD 1
CROM 1
H.FW 1
CB710
CB711
CB712
CB713
IN OUT LOAD 1
IN OUT LOAD 2
KU-9246-1
KU-9246-2
LOAD2 MOTOR
HALLIC 1 supply
CAPSTAN MOTOR 1
SOL 1
HALF 1
MODE 1
CROM 1
HALLIC 1 take up
HALLIC 2 supply
CAPSTAN MOTOR 2
SOL 2
REC-F2
HALF2
METAL2
MODE2
REC-R2
CROM2
HALLIC2 take up
OUT
GND

P.B. SIGNAL LINE

REC SIGNAL LINE

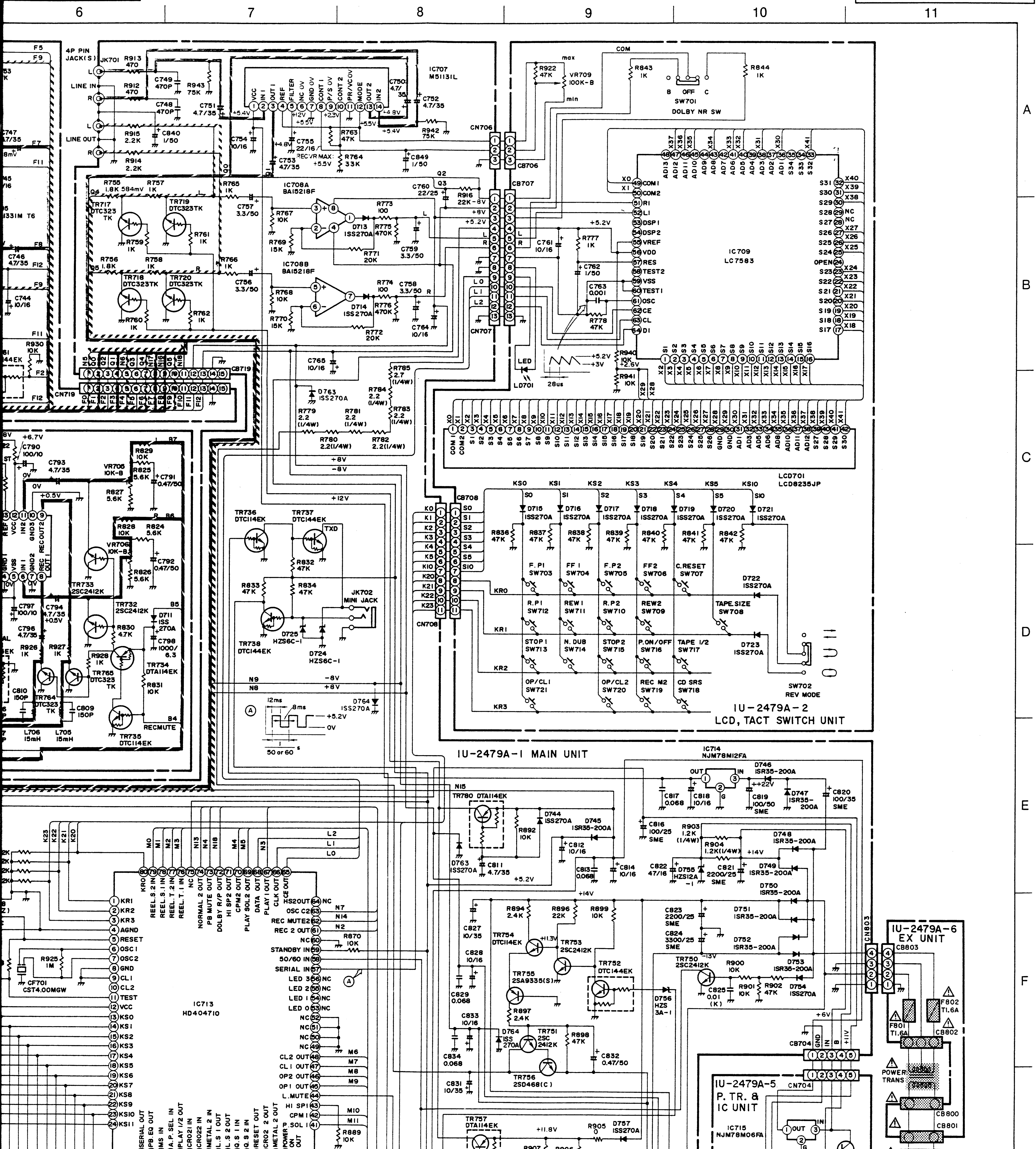
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manifacturer.

CAUTION
Before ret
leakage cu
defective.

WARNING
DO NOT r

CHEMATIC DIAGRAM

CASSETTE DECK SECTION


6
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G
H
4P PIN JACK(S) JK701
LINE IN
LINE OUT
IC707 M51131L
IC708A BA15218F
IC708B BA15218F
DOLBY NR SW
SW701
VR709 100K-B
CN706
CB706
CB707
CN707
IC709 LC7583
LD701
LED
28us
LCD701 LCD8235JP
CB708
CN708
F.P1 SW703
FF1 SW704
F.P2 SW705
FF2 SW706
C.RESET SW707
R.P1 SW712
REW1 SW711
R.P2 SW710
REW2 SW709
TAPE SIZE SW708
STOP1 SW713
N.DUB SW714
STOP2 SW715
P.ON/OFF SW716
TAPE 1/2 SW717
OP/CL1 SW721
OP/CL2 SW720
REC M2 SW719
CD SRS SW718
SW702 REV MODE
IU-2479A-2 LCD, TACT SWITCH UNIT
JK702 MINI JACK
CN719
CB719
IU-2479A-1 MAIN UNIT
IC714 NJM78M12FA
IC713 HD404710
CF701 CST4.00MGW
IU-2479A-6 EX UNIT
CN803
CB803
CB802
CB800
CB801
F801 T1.6A
F802 T1.6A
POWER TRANS
IU-2479A-5 P. TR. & IC UNIT
CN704
CB704
IC715 NJM78M06FA
TR749 2SC3852
CB705
IC716 NJM78M08FA
IC717 NJM79M08FA
AC230V 50Hz (EUROPE)
AC240V 50Hz (U.K.)

CAUTION:

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 Kohms, the unit is defective.

WARNING

DO NOT return the unit to the customer until the problem is located and corrected.

NOTES

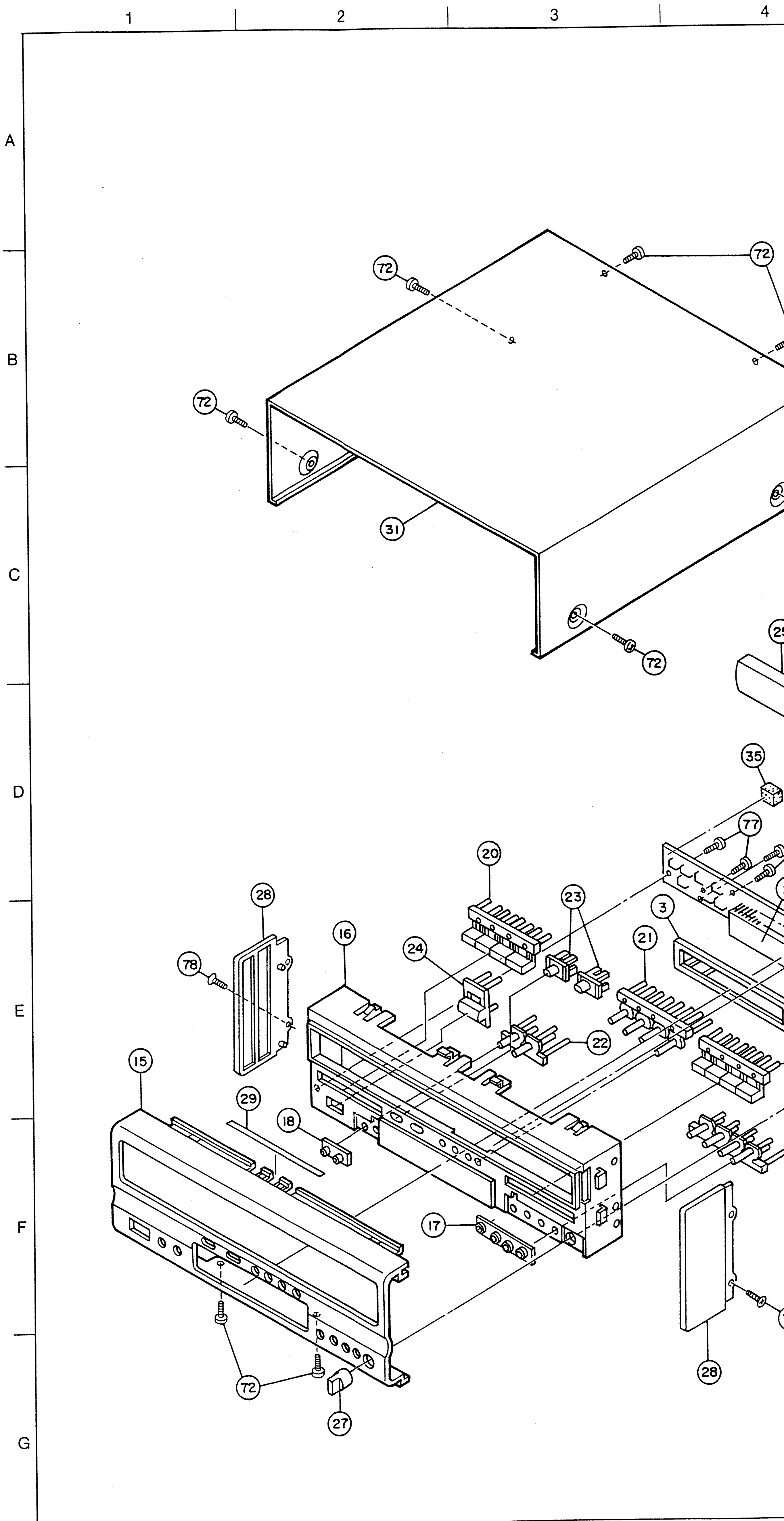
ALL RESISTANCE VALUES IN OHM K=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

CASSETTE DECK SECTION

EXPLODED VIEW OF PARTS LIST

Ref. No.	Part No.	Part Name	Remarks	Q'ty
◉ 1	1U- 2479 A	P.W.Board Unit Assy		1^{S}
1-1	—	Main Unit		(1)
1-2	—	LCD,Tact Switch Unit		(1)
1-3	—	PB,R/P Unit		(1)
1-4	—	Dolby Unit		(1)
1-5	—	P.TR.& IC Unit		(1)
1-6	—	EX. Unit		(1)
2	393 4143 001	LCD (8235JP)		1
3	449 0057 009	LCD Holder		1
4	211 6090 009	Variable Resistor 100kohm		1
5	204 8421 005	Mini Jack		1
6	—	—		
7	204 8266 008	4 P Pin Jack(S-GND)		1
◉ 8	411 1184 316	Main Chassis		1
9	104 0237 201	Foot Assy		4
◉ 10	105 1043 112	Rear Panel	Europe model	1
◉ 10	105 1043 138	Rear Panel	U.K. model	1
◉ 11	412 2814 028	Card Spacer(L=10)		1
◉ 12	412 3548 005	P.W.B Catcher		2
◉ 13	HM55A	Cassette Mech. Unit		1
14	449 0071 001	Mech. Holder(F)		2
◉ 15	144 2213 221	Front Panel		1
◉ 16	146 1404 309	Inner Panel Assy		1
17	146 1420 105	Knob Guide(Round)		1
18	146 1420 118	Knob Guide(Round)		1
19	113 1547 318	Push Knob(Play)		1
20	113 1547 321	Push Knob(Play)		1
21	113 1549 002	Push Knob(Round)		2
22	113 1549 015	Push Knob(Round)		1
23	113 1548 003	Select Knob		2
24	113 1460 000	Power Knob		1
25	146 1407 209	Loader Panel(1)		1
26	146 1408 208	Loader Panel(2)		1
27	112 0645 166	Knob	Rec Level	1
28	146 1400 303	Side Plate		2
29	122 0183 007	Spacer	100×10×t0.5	1
★ 30	445 8004 007	Wire Clamper		5
◉ 31	102 0518 209	Top Cover		1
◉ 32	412 9326 001	IC Holder		1
◉ 33	412 9327 000	P.W.B Bracket		1
34	414 9125 101	Wire Cover		4
35	461 9036 005	Spacer	15×15×t5	1
△ 36	233 9649 004	Power Trans.	Europe model	1
△ 36	233 9652 004	Power Trans.	U.K. model	1
△ 37	206 1015 058	Fuse 1.6 A	F800,80[illegible]	2
△ 38	445 0056 008	Cord Bush		1
△ 39	206 2089 106	AC Cord W/Conn.		1
40	415 9016 006	P.C.B Holder		2
41	—	—		
42	254 4256 790	Chemicon 2200µF/25V	C821,823	2
43	254 4257 702	Chemicon 3300µF/25V	C824	1
44	393 9470 009	LED		1
45	415 9070 000	Insulating Sheet		1
46	461 0758 007	Rubber Sheet	10×8×T5	2
47	513 9315 001	Rating Sheet	Europe model	1
47	513 9315 014	Rating Sheet	U.K. model	1
SCREWS				
71	473 7002 005	Tapping Screw(S)3×6		10
72	473 7015 005	Tapping Screw(S)3×6	Black	14
73	473 7508 046	Tapping Screw(S)3×16	Black	2
74	477 0064 107	Fixing Screw		1
75	473 7508 017	Tapping Screw(P)3×10	Black	4
76	473 7500 015	Tapping Screw(P)3×8		4
77	473 7505 007	Tapping Screw(P)2.6×8		8
78	473 7009 008	F.Tapping Screw(S)3×6		2
79	473 7015 018	Tapping Screw(S)3×8	Black	6
80				
PACKING & ACCESSORIES (Not included EXPLODED VIEW)				
101	505 0102 089	Stylen Paper	700×700	1
102	503 1029 107	Cushion		1
103	503 1032 107	Top Cushion		1
104	501 9228 001	Carton Case		1
105	461 0770 001	Protector Sheet		1

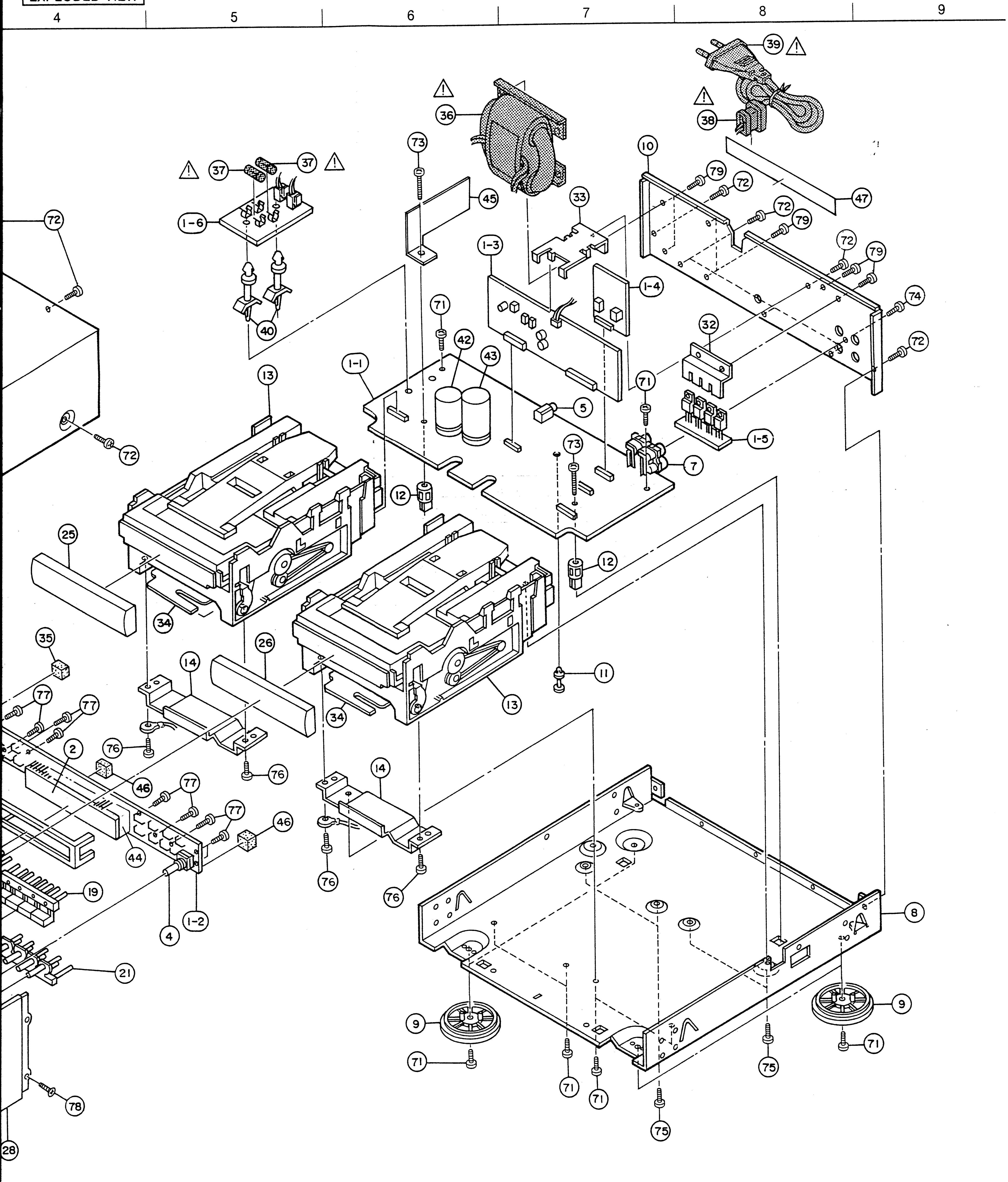
EXPLO



NOTE ON PARTS LIST
- Part indicated with the mark "◉" are not always in stock and possibly to take a long period of time for suppling, or in son supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.

WARNING:
Parts marked with this symbol △ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

EXPLODED VIEW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1-6
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72
79
47
72
79
74
33
1-3
1-4
71
42
43
1-1
13
32
72
71
1-5
5
7
73
12
12
25
34
35
26
14
11
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34
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77
77
77
2
76
76
46
46
44
19
4
1-2
21
14
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76
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71
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71
75
75
78
28

pling, or in some case

DISASSEMBLY PROCEDURES

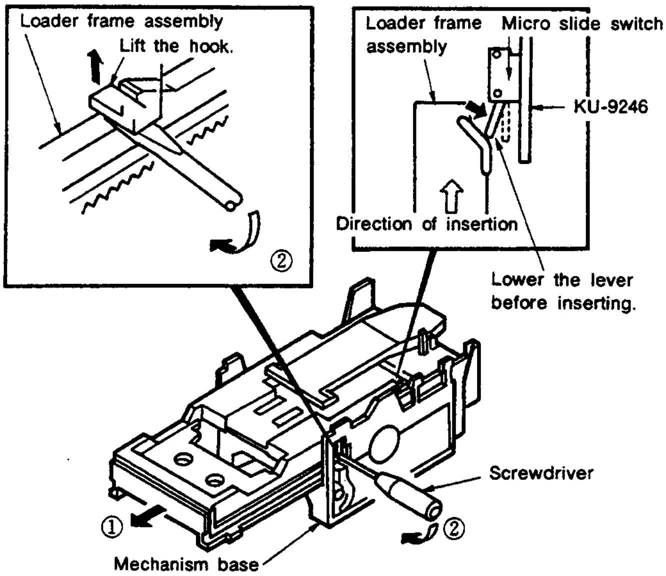
(Follow these procedures in reverse order to reassemble.)

1. Removing the loader frame assembly

① Pull the loader frame assembly out forwards until it stops.

② Insert a screwdriver with a narrow tip into the section indicated with the arrow, then lift the hook and pull the loader frame assembly out forwards.

NOTE: When reinserting the loader frame assembly, be careful not to damage the micro slide switch.


Loader frame assembly
Lift the hook.
②
Loader frame assembly
Micro slide switch
KU-9246
Direction of insertion
Lower the lever before inserting.
Screwdriver
①
②
Mechanism base

2. Removing the cassette mechanism

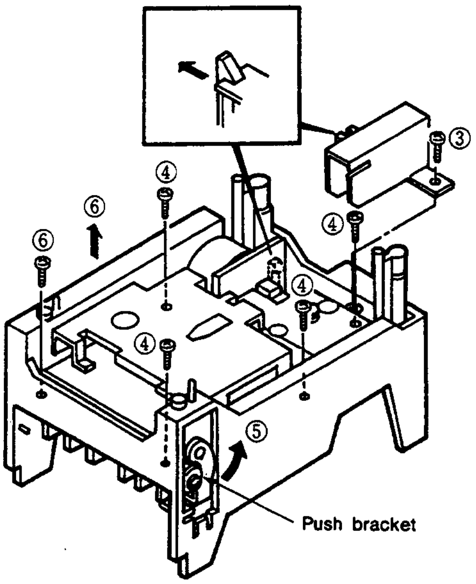
③ Remove the shield cover screw, then remove the shield cover.

④ Remove the five screws fastening the cassette mechanism.

⑤ Pressing the push bracket in the direction of the arrow...

⑥ ...lift the cassette mechanism up and off.

NOTE: The push bracket may be deformed if the cassette mechanism is lifted without pressing the push bracket in the direction of the arrow. (The same is true when reassembling.) A deformed push bracket cannot be used.
After fastening the cassette mechanism with the screws, check that the push bracket moves (rotates) properly.


③
④
⑥
⑥
④
④
④
⑤
Push bracket

3. Removing the push bracket

Do this with the loader frame assembly and cassette mechanism removed.

⑦ Remove the two special screws.

⑧ Remove the lever spring.

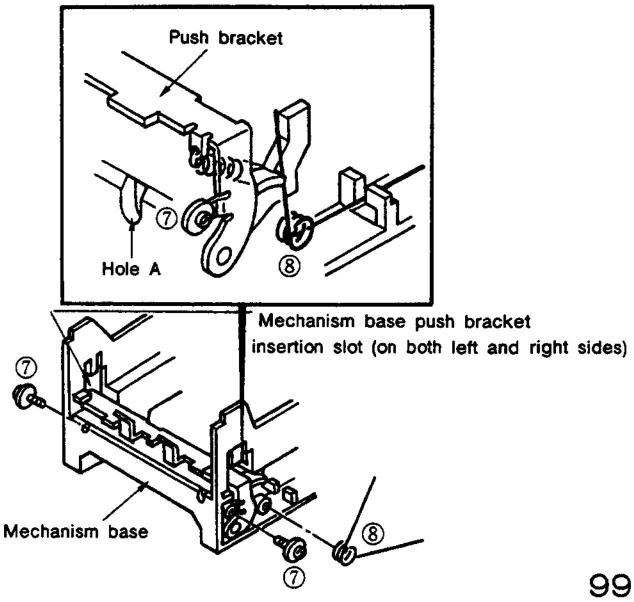
⑨ Remove the push bracket spring using a spring catching rod, etc., through hole A.

⑩ Remove the push bracket.

(a) Disconnect first the left then the right push bracket bar ring from the mechanism base's push bracket boss.

(b) Bring out first the left then the right side from the mechanism base's push bracket insertion slot.

NOTE: Be careful not to deform the push bracket (do not forcibly disassemble or assemble it). A deformed push bracket cannot be used.


Push bracket
⑦
Hole A
⑧
Mechanism base push bracket insertion slot (on both left and right sides)
⑦
Mechanism base
⑧
⑦

CASSETTE DECK SECTION

CASSETTE MECHANISM HM-55A

HM-55R UNIT PARTS LIST (REC/PB)

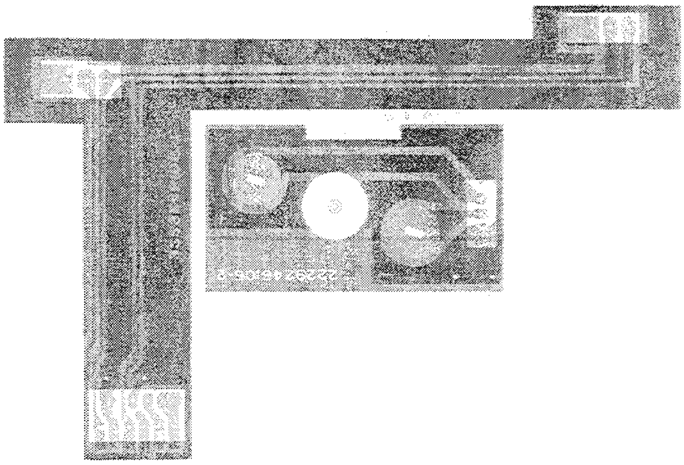
Ref. No.	Part No.	Part Name	Remarks	Q'ty
◉ 1	411 1163 418	Loading Mecha Ass'y		1
◉ 2	411 1156 108	Mecha Base Ass'y		1
3	424 0183 000	Pulley Gear		1
4	423 0064 003	Belt		1
5	424 0182 001	Gear		1
6	475 1119 110	Slit Washer		1
7	433 0574 202	Push Lever		1
◉ 8	412 3467 102	Push Bracket		1
9	463 0708 008	Lever Spring		1
10	463 0709 007	Push Bracket SP.		1
11	433 0573 203	Clamper Arm		1
12	463 0710 009	Clamper SP.		1
13	431 0323 004	Clamper Press		2
14	463 0707 009	Clamper Press SP.		2
15	431 0329 202	Loader F. Sub Ass'y		1
16	GEN 1920 A	Loading Motor		1
17	421 0379 103	Motor Pulley		1
◉ 18	338 0154 000	CRF340 C. Mecha REC/PB		1
◉ 19	412 3468 101	Shild Bracket		1
◉ 20	412 3518 006	Shild Cover		1
◉ 21	KU- 9246 A	P.W. Board Ass'y		1
★ 22	203 8334 005	5P PH-3P/4P PH Con. Cord		1
★ 23	203 0240 003	1P Contact Cord		1
24	203 0521 007	Earth Wire Ass'y		1
25	212 1077 004	Micro Slide SW		2
26	475 1161 003	Washer		1
27	461 0724 002	Spacer	16×t5	2
◉ 28	412 3517 007	Shield Ring		3
SCREWS				
51	473 8044 004	Special Screw		4
52	471 3201 011	Bind Screw 2.6×4		2
53	473 7002 005	Tapping Screw (P) 3×6		2
54	473 7500 015	Tapping Screw (P) 3×8		6

HM-55P UNIT PARTS LIST (PB ONLY)

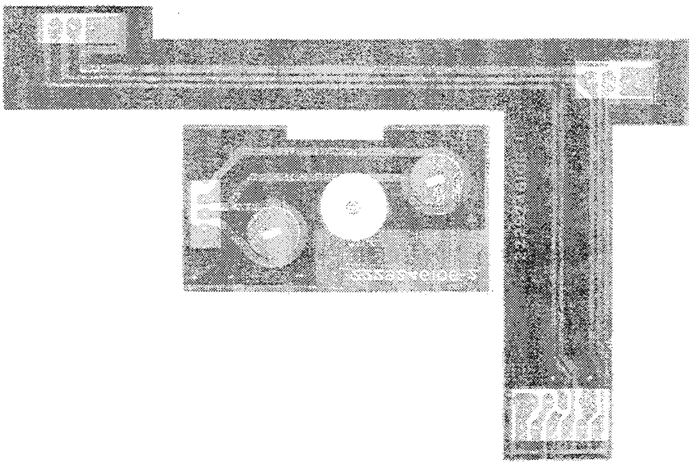
Ref. No.	Part No.	Part Name	Remarks	Q'ty
◉ 1	411 1163 418	Loading Mecha Ass'y		1
◉ 2	411 1156 108	Mecha Base Ass'y		1
3	424 0183 000	Pulley Gear		1
4	423 0064 003	Belt		1
5	424 0182 001	Gear		1
6	475 1119 110	Slit Washer		1
7	433 0574 202	Push Lever		1
◉ 8	412 3467 102	Push Bracket		1
9	463 0708 008	Lever Spring		1
10	463 0709 007	Push Bracket SP.		1
11	433 0573 203	Clamper Arm		1
12	463 0710 009	Clamper SP.		1
13	431 0323 004	Clamper Press		2
14	463 0707 009	Clamper Press SP.		2
15	431 0329 202	Loader F. Sub Ass'y		1
16	GEN 1920 A	Loading Motor		1
17	421 0379 103	Motor Pulley		1
◉ 18	338 0155 009	CRF341 C. Mecha PB		1
◉ 19	412 3468 101	Shield Bracket		1
◉ 20	412 3518 006	Shild Cover		1
◉ 21	KU- 9246 A	P.W. Board Ass'y		1
★ 22	203 4856 008	3P EH-4P PH Con. Cord		1
★ 23	203 0240 003	1P Connect Cord		1
24	—	—		
25	212 1077 004	Micro Slide SW		2
26	475 1161 003	Washer		1
27	461 0724 002	Spacer	16×t5	2
◉ 28	412 3517 007	Shield Ring		2
SCREWS				
51	473 8044 004	Special Screw		4
52	471 3201 011	Bind Screw 2.6×4		2
53	—	—		
54	473 7500 015	Tapping Screw (P) 3×8		6

P.W.B UNIT ASS'Y

Component



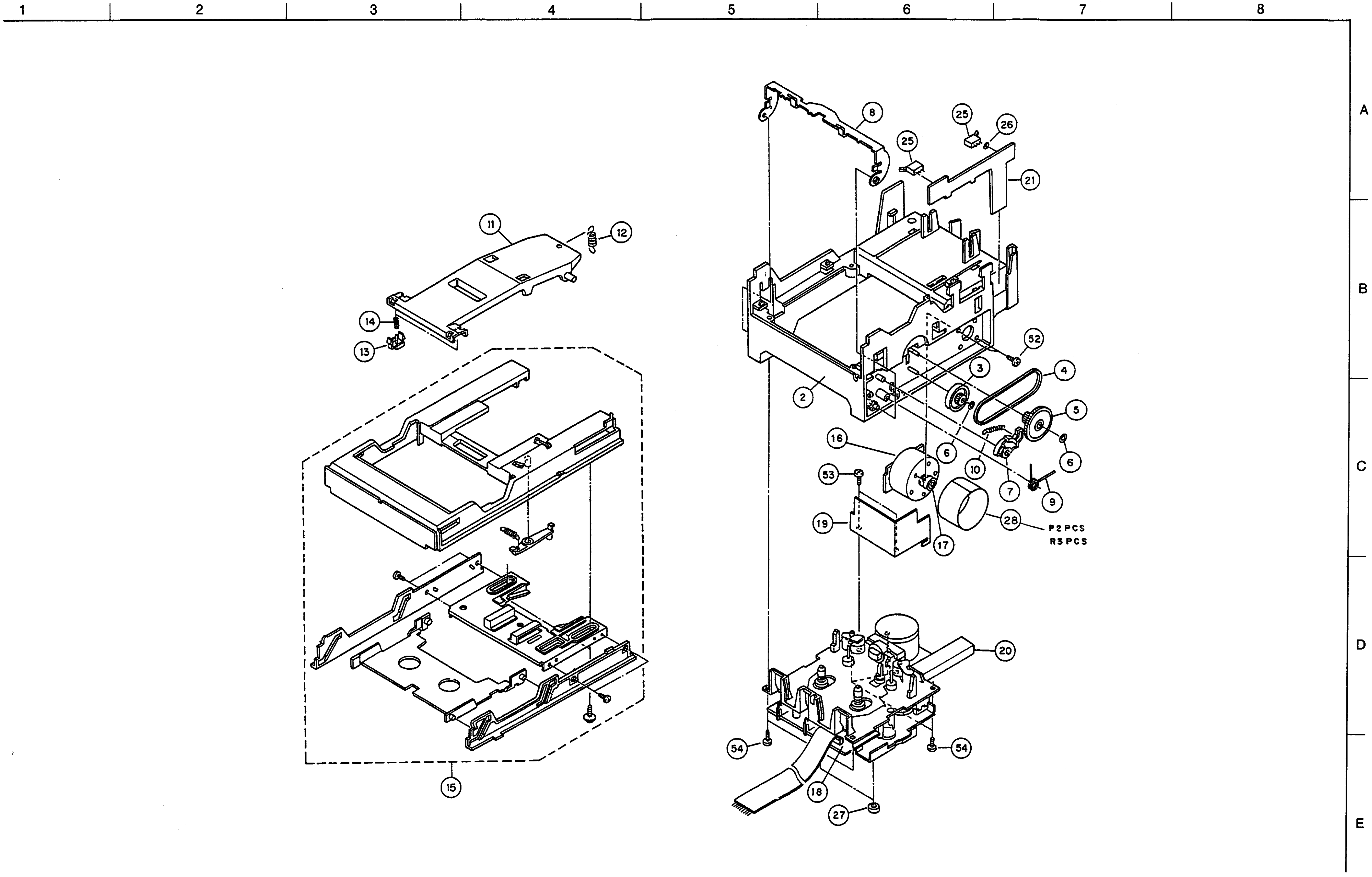
Pattern Side



P.W.B. UNIT ASS'Y PARTS LIST

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER GROUP				
	—	(P.W. Board)		(1)
	205 0355 062	6P KR Con Base (L)		1
	209 0008 146	Jumper (L=5)		2
	205 0409 031	3P DIP Socket		2
	002 0042 006	3C R. Wire Ass'y		1
	212 1077 004	Micro Slide Switch		2
	475 1161 003	Washer		1

CASSETTE DECK SECTION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R3PCS
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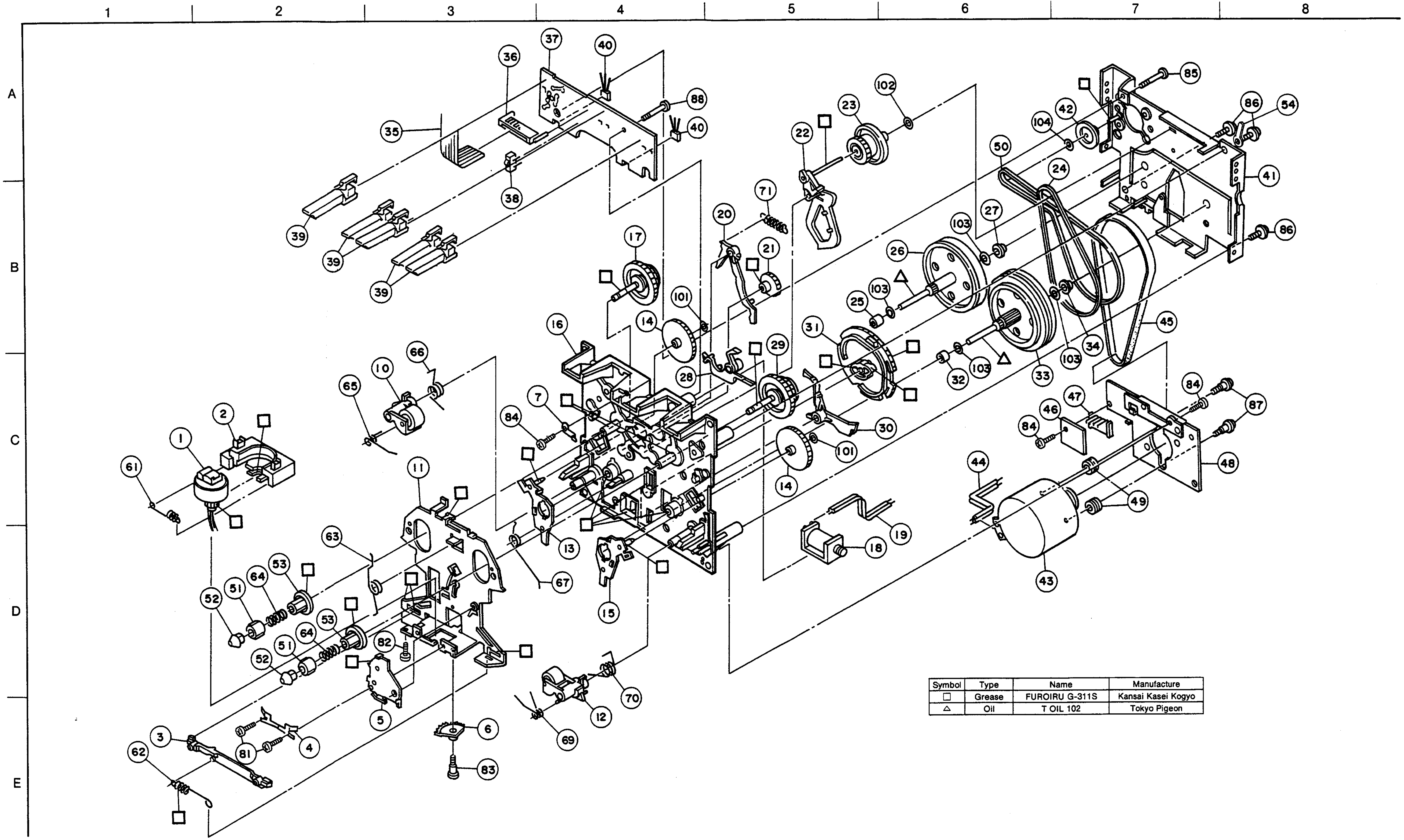
CASSETTE DECK SECTION

EXPLODED VIEW (REC/PB)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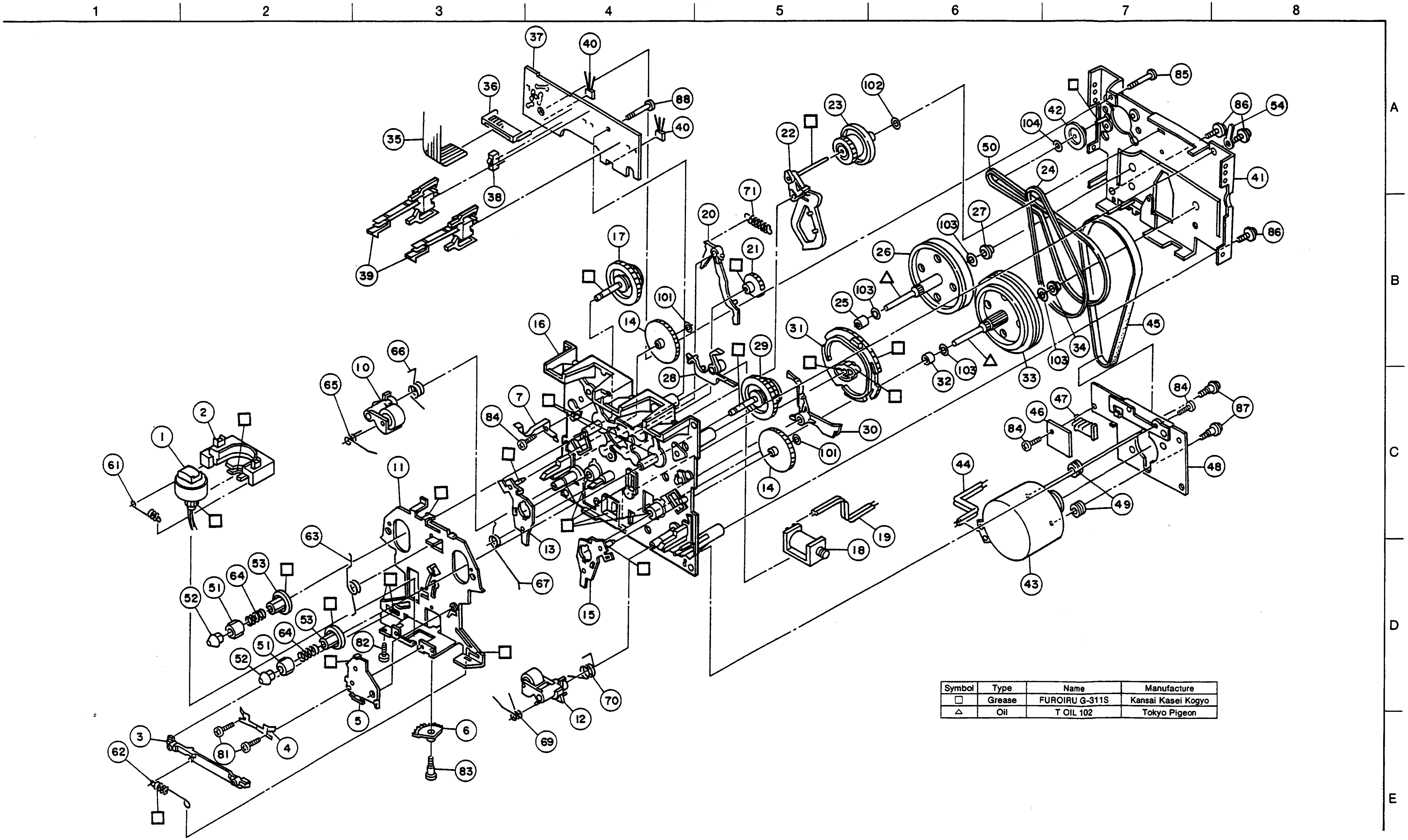
Symbol	Type	Name	Manufacture
□	Grease	FUROIRU G-311S	Kansai Kasei Kogyo
△	Oil	T OIL 102	Tokyo Pigeon

EXPLODED VIEW (PB Only)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Symbol	Type	Name	Manufacture
□	Grease	FUROIRU G-311S	Kansai Kasei Kogyo
△	Oil	T OIL 102	Tokyo Pigeon

CASSETTE DECK SECTION

PARTS LIST OF CASSETTE MECHANISM (REC/PB) Parts No. 3380154000

Ref. No.	Part No.	Part Name	Remarks	Q'ty
* 1	948 0000 126	Ass'y Holder Head	22-093-4269	1
2	948 0000 207	Frame Head	22-219-1026	1
3	948 0000 304	Lever Head	22-259-2012	1
4	948 0000 401	Spring Azimuth	16-160-4032	1
5	948 0000 508	Ass'y Arm Assist	22-093-4053	1
6	948 0000 605	Gear Arm Head	22-239-4020	1
7	948 0000 702	Plate Stopper	22-119-4283	1
8	—	—		
9	—	—		
10	948 8000 809	Ass'y Pinch Arm L	22-093-4149	1
◉ 11	948 8000 906	Chassis Head	22-112-2022	1
12	948 0001 002	Ass'y Pinch Arm R	22-093-4150	1
13	948 0001 109	Ass'y Arm Play L	22-093-4063	1
14	948 0001 206	Gear Play	22-222-4042	2
15	948 0001 303	Ass'y Arm Play R	22-093-4062	1
◉ 16	948 0001 400	Chassis OS	22-210-1023	1
17	948 0001 507	Ass'y Sub Reel L	22-093-3277	1
18	948 0001 604	Solenoid	07-W021C	1
19	—	Wire	22-072-4365	1
20	948 0001 808	Arm RVS	22-239-3010	1
21	948 0001 905	Gear FF	22-222-4048	1
22	948 0002 001	Ass'y Arm FR	22-093-4061	1
23	948 0002 108	Ass'y Pulley FR	22-093-3060	1
24	948 0002 205	Belt FR	02-083-4059	1
25	948 0002 302	Metal	22-262-4033	1
26	948 0010 006	Ass'y Flywheel L	22-220-3278	1
27	948 0002 315	Metal	16-262-4031	1
28	948 0002 506	Arm Brake	22-239-3028	1
29	948 0001 510	Ass'y Sub Reel R	22-093-4151	1
30	948 0002 603	Arm Triger	22-268-3008	1
31	948 0002 700	Gear Cam	22-221-2090	1
32	948 0005 600	Metal	PBE16449	1
33	948 0010 103	Ass'y Flywheel R	22-220-3141	1
34	948 0002 331	Metal	16-262-4030	1
*◉ 35	948 0002 849	Wire (14P)	16-072-4238	1
◉ 36	948 0002 904	Holder Wire	16-219-2382	1
◉ 37	948 0003 000	P.W.Board	22-070-3261	1
38	948 0003 107	Switch Mode	04-SW150	1
39	948 0003 204	Switch (Leaf)	04-MTS10045MVJ0	5
40	948 0003 301	Hall IC.	00-LB9051A	2
◉ 41	948 0003 408	Bracket FW	22-093-3276	1
42	948 0003 505	Pulley	17-223-4639	1
43	948 0003 628	Ass'y Moter	22-093-4451	1
44	—	Wire	22-072-4216	1
45	948 0003 712	Belt Main	02-084-4104	1
◉ 46	948 0003 806	P.W.Board	22-070-4046	1
*◉ 47	948 0003 903	Housing	00-S5BEH	1
48	948 0004 009	Bracket Motor	22-119-4249	1
49	948 0004 106	Rubber Cushion	PBE13360	2
50	948 0004 203	Belt	02-083-4094	1
51	948 0004 300	Reel A	22-228-3210	2
52	948 0004 407	Reel B	22-228-3211	2
53	948 0004 504	Pulley Reel	22-223-3212	2
54	—	Keep Wire	PBE14411	1
61	948 0004 708	Spring	01-080-4251	1
62	948 0004 711	Spring	01-080-4249	1
63	948 0004 724	Spring	01-082-4250	1
64	948 0004 737	Spring	01-081-4333	2
65	948 0004 740	Spring	01-082-4253	1
66	948 0004 753	Spring	01-082-4262	1
67	948 0004 766	Spring	01-082-4337	1
68	—	—		
69	948 0004 779	Spring	01-082-4254	1
70	948 0004 782	Spring	01-082-4261	1
71	948 0004 795	Spring	01-080-4260	1
81	948 0004 821	Screw (Azmuth)	03-300-4056	2
82	948 0004 818	Screw	PGSU20A2005	1
83	948 0004 706	Screw	03-300-4043	1
84	948 0004 834	Screw	PGSD10A2004	3
85	948 0004 847	Screw	PGSD20A2016	1
86	948 0004 850	Screw	PGSL15A2608	3
87	948 0004 864	Screw	PBE13913	2
88	948 0004 876	Screw	PGSL10A12608	1
101	948 0004 902	Washer	PGWP16X040020S	2
102	948 0004 915	Washer	PGWP16X040040	1
103	948 0004 928	Washer	PGWP26X042013	4
104	948 0004 931	Washer	PGWP13X030025S	1

PARTS LIST OF CASSETTE MECHANISM (PB ONLY) Part No. 3380155009

Ref. No.	Part No.	Part Name	Remarks	Q'ty
* 1	948 0000 113	Ass'y Holder Head	22-093-4067	1
2	948 0000 207	Frame Head	22-219-1026	1
3	948 0000 304	Lever Head	22-259-2012	1
4	948 0000 401	Spring Azimuth	16-160-4032	1
5	948 0000 508	Ass'y Arm Assist	22-093-4053	1
6	948 0000 605	Gear Arm Head	22-239-4020	1
7	948 0000 702	Plate Stopper	22-119-4283	1
8	—	—		
9	—	—		
10	948 0000 809	Ass'y Pinch Arm L	22-093-4149	1
◉ 11	948 0000 906	Chassis Head	22-112-2022	1
12	948 0001 002	Ass'y Pinch Arm R	22-093-4150	1
13	948 0001 109	Ass'y Arm Play L	22-093-4063	1
14	948 0001 206	Gear Play	22-222-4042	2
15	948 0001 303	Ass'y Arm Play R	22-093-4062	1
◉ 16	948 0001 400	Chassis OS	22-210-1023	1
17	948 0001 507	Ass'y Sub Reel L	22-093-3277	1
18	948 0001 604	Solenoid	07-W021C	1
19	—	Wire	22-072-4365	1
20	948 0001 808	Arm RVS	22-239-3010	1
21	948 0001 905	Gear FF	22-222-4048	1
22	948 0002 001	Ass'y Arm FR	22-093-4061	1
23	948 0002 108	Ass'y Pulley FR	22-093-3060	1
24	948 0002 205	Belt FR	02-083-4059	1
25	948 0002 302	Metal	22-262-4033	1
26	948 0010 006	Ass'y Flywheel L	22-220-3278	1
27	948 0002 315	Metal	16-262-4031	1
28	948 0002 506	Arm Brake	22-239-3028	1
29	948 0001 510	Ass'y Sub Reel R	22-093-4151	1
30	948 0002 603	Arm Triger	22-268-3008	1
31	948 0002 700	Gear Cam	22-221-2090	1
32	948 0005 600	Metal	PBE16449	1
33	948 0010 103	Ass'y Flywheel R	22-220-3414	1
34	948 0002 331	Metal	16-262-4030	1
*◉ 35	948 0002 852	Wire (12P)	16-072-4098	1
◉ 36	948 0002 904	Holder Wire	16-219-2382	1
◉ 37	948 0003 000	P.W.Board	22-070-3261	1
38	948 0003 107	Switch Mode	04-SW150	1
39	948 0003 204	Switch (Leaf)	04-MTS10045MVJ0	2
40	948 0003 301	Hall IC. LB9051A	00-LB9051A	2
◉ 41	948 0003 408	Bracket FW	22-093-3276	1
42	948 0003 505	Pulley	17-223-4639	1
43	948 0003 628	Ass'y Moter	22-093-4451	1
44	—	Wire	22-072-4216	1
45	948 0003 712	Belt Main	02-084-4104	1
◉ 46	948 0003 806	P.W.Board	22-070-4046	1
*◉ 47	948 0003 916	Housing	00-S3BEH	1
48	948 0004 009	Bracket Motor	22-119-4249	1
49	948 0004 106	Rubber Cushion	PBE13360	2
50	948 0004 203	Belt	02-083-4094	1
51	948 0004 300	Reel A	22-228-3210	2
52	948 0004 407	Reel B	22-228-3211	2
53	948 0004 504	Pulley Reel	22-223-3212	2
54	—	Keep Wire	PBE14411	1
61	948 0004 708	Spring	01-080-4251	1
62	948 0004 711	Spring	01-080-4249	1
63	948 0004 724	Spring	01-082-4250	1
64	948 0004 737	Spring	01-081-4333	2
65	948 0004 740	Spring	01-082-4253	1
66	948 0004 753	Spring	01-082-4262	1
67	948 0004 766	Spring	01-082-4337	1
68	—	—		
69	948 0004 779	Spring	01-082-4254	1
70	948 0004 782	Spring	01-082-4261	1
71	948 0004 795	Spring	01-080-4260	1
81	948 0004 821	Screw (Azmuth)	03-300-4056	2
82	948 0004 818	Screw	PGSU20A2005	1
83	948 0004 706	Screw	03-300-4043	1
84	948 0004 834	Screw	PGSD10A2004	3
85	948 0004 847	Screw	PGSD20A2016	2
86	948 0004 850	Screw	PGSL15A2608	3
87	948 0004 864	Screw	PBE13913	2
88	948 0004 876	Screw	PGSL10A12608	1
101	948 0004 902	Washer	PGWP16X040020S	2
102	948 0004 915	Washer	PGWP16X040040	1
103	948 0004 928	Washer	PGWP26X042013	4
104	948 0004 931	Washer	PGWP13X030025S	1